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ABSTRACT

This workbook is designed primarily for graduate library school students in a supervised laboratory setting as an adjunct to a formal course on computer based reference services. The DIALOG system has the capability to search several large on line files, and the workbook is designed to be used in conjunction with the Lockheed DIALOG Manual. Eight of the ten exercises cover basic instruction and drill of DIALOG commands and features, and the remaining two provide summary reviews and drills. Though not intended for self-instruction, the exercises may be done either individually or in group mode. Appendices include suffix, prefix, language and publication type codes, and LIMIT commands. (WBC)

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DIALOG® LAB WORKBOOK

Training Exercises for the Lockheed DIALOG® Information Retrieval Service

CHARLES P. BOURNE

MAJOR DIALOG COMMANDS

Command	Short Version	Symbol	Function
BEGINn	BEGINn	!n	To begin in a particular file (n).
BEGIN	BEGIN	!	Indicates to computer that user is ready to begin.
BEGIN BYPASS	BEGIN B	!B	To bypass preliminaries for a search.
.FILEn			To change files.
EXPAND	E	"	Causes display of alphabetically close or thesaurus related descriptors.
SELECT	S	#	The basic retrieval command. Results in a set.
COMBINE	C	$	Used to combine sets with OR(+), AND(*), NOT(-).
TYPE	T	'	Causes citation(s) to be typed on-line.
DISPLAY	D	%	Causes citations(s) to be displayed on-line.
PRINT	PR	&	Causes citation(s) to be printed off-line.
PRINT-	PR-	&-	Cancels the most recent PRINT command.
LIMIT	L	)	Limits a particular set by selected parameter.
LIMITALL	LALL	)ALL	Limits all subsequent sets by accession number range.
LIMIT ALL/ALL	L ALL/ALL	)ALL/ALL	Cancels LIMIT ALL command.
PAGE	P	0(zero)	Causes next page of expand display to be shown.
END	END	=	Records time from previous END or BEGIN command.
DISPLAY SETS	DS	@	Causes display of all sets thus far created from last BEGIN.
SEND MESSAGE	M	]	Allows one to send message to Lockheed terminal.
LOGOFF	LOGOFF	LOGOFF	Gives ending information. Disconnects user from the computer.
.COST	.COST		Gives on-line time and cost.
END/SAVE .RECALLn .EXECUTE .EXECUTEn .RELEASE		=/SAVE	Commands associated with SEARCH SAVE
?EXPLAIN			Explains the EXPLAIN command and lists the available tutorial commands.
?NEWS			Displays latest news message for terminal users.
?SCHEDULE			Gives hours of DIALOG service.
?RATES			Gives cost per file for searching and off-line printing.
?FILES			Gives list of files in the DIALOG system.
?FILEn			Describes the scope of a particular file (n).
?FIELDSn			Explains the search fields applicable in a particular file (n).
?LIMITn			Explains limit capabilities of a particular file (n).

DIALOG®
LAB WORKBOOK

Training Exercises for the Lockheed DIALOG® Information Retrieval Service

CHARLES P. BOURNE

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PREFACE

This workbook was prepared primarily for use by graduate library school students in a supervised laboratory setting as an adjunct to a formal course on computer-based reference services. In that context, the students were expected to have a prior knowledge and understanding of printed reference tools and the concept of reference service. They were also expected to have a lecture on the DIALOG system before the exercises were to be started.

The exercises were intended to be done with a trained laboratory assistant in attendance to help with any problems that came up during the exercises. The students were expected to prepare themselves for the lab sessions by reviewing the material in advance. They were also required to do the associated homework exercises after the lab sessions. The workbook was not intended to be used by itself in a self-instructional mode.

The exercises were planned to be done in conjunction with the use of the Lockheed DIALOG Manual, Volumes 1 and 2. However, it soon became clear that this workbook was almost self-sufficient for DIALOG instruction, with the Lockheed manuals (primarily Vol. 2) needed for reference purposes to obtain language codes or other information specific to a data base. Our long range objective is to make this workbook self-sufficient for matters of DIALOG operation, while still requiring the students to make reference to other background materials that are data base specific.

For planning purposes, student timing data for several different classes was collected for each exercise, and is included as background information with each exercise. This timing data was collected under circumstances in which each student, or team of two students, was told in advance that they would have a total personal budget of about 3 1/2 hours of on-line time available to them for the entire set of exercises, and that they should use their time effectively. This time budget turned out to be an almost realizable goal, in fact an average of about 3.6 hours (self-reported) is required to complete the full set of 10 exercises. The point of this is that the reported times reflect rates achieved by students working under some time pressure. The emphasis on the lab work was to develop a personal high speed operating capability in the event that the student was later placed in a job environment where that was important.

The on-line times were measured and reported directly by the students as part of each homework exercise. The rates reported by students who had prior experience on some other on-line system were generally faster than the average of the other students. A later audit that compared the self-reported times with the times shown on the Lockheed accounting reports showed that the students generally reported less time than was actually taken, to the extent of an underestimate of about one hour for the full set of exercises. Thus anybody planning to use these exercises with a class should include this factor in planning the course budget.

In planning the actual lab facility, it is helpful if there are several terminals that can be used in parallel by several students. Enough lab-terminal hours should be scheduled to permit all of the exercises to be completed over the desired calendar period. For planning purposes we found it helpful to schedule 6 lab hours of terminal availability per student.

The timing data reported here was obtained with the use of 30 characters per second (Texas Instruments) thermal printers and DEC Writer-2 impact printers. Some of the instructions in this manual may have to be modified slightly if different equipment is used for the exercises.

These exercises have been tested and have evolved from their use with several series of student classes. Most of the students were graduate library school students, but many were professional librarians going through an in-service training program. As a result, most of the errors, ambiguities, and conflicts have been removed from the exercises; however some more are sure to surface in continued use. The reader should also expect that parts of the exercises and supporting materials will become incomplete or out of date as the DIALOG system goes through its continual evolutionary development and upgrading of capabilities.

The exercises were written so that they could also be used by different organizations at different locations. For that reason, blank spaces are left in selected locations in the text for the instructor to enter location-specific information such as telephone numbers to the data communication systems, and the names of default files.

The first 8 exercises provide the basic instruction and drill of the DIALOG commands and features. The remaining 2 exercises serve as summary reviews and drills to help pull it all together.

The exercises are designed to be used in a way in which each student performs each exercise as an individual effort. However, the exercises could also be used in a group mode, with an assigned group of 2 to 4 students doing the set of exercises together, each student taking turns as the actual terminal operator.

All of the material in this workbook was prepared with the very helpful and able assistance of Jo Robinson and Barbara Anderson of the University of California, Institute of Library Research.

INTRODUCTION

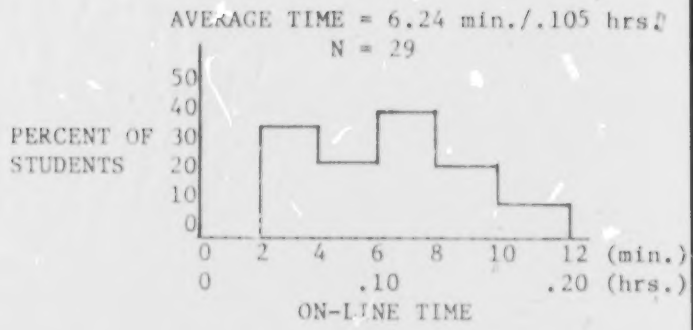
The DIALOG system provides a powerful capability to search any of several large on-line files for information of specific interest to the searcher or some other end user. Simple commands are given by the terminal operator and are interpreted and acted upon by the computer system. With a few of these commands it is easy for an operator to perform a search such as the one shown below

```
BEGIN 10
SELECT COTTON
SELECT EGYPT?
SELECT PRODUC?
COMBINE 1 AND 2 AND 3
PRINT 4/2/1-20
```

In the above example, the searcher was interested in citations from File 10 (NAL/CAIN data base) which jointly used the terms COTTON and terms with the root EGYPT (e.g., Egypt, Egypt's, Egyptian) and terms with the root PRODUC (e.g., produce, products, production). The twenty most recent citations that satisfied this search prescription were to be printed off-line to be mailed to the searcher.

The above example shows that using the available DIALOG commands, it is relatively easy to run a search and obtain acceptable results with very little training or effort. However, an even greater capability and efficiency can be achieved if the operator receives more training and familiarity with the specifics of each of the DIALOG commands and features. For this reason, and because this workbook is aimed at the development of skills and efficiencies beyond that of an elementary novice, each of the major available DIALOG commands and features are described in considerable detail in the following sections.

DIALOG LAB EXERCISE #1
(START/STOP)



OBJECTIVE: To learn the startup, error recovery routines, and signoff protocols, and to obtain working familiarity with alternative data transmission networks

COMMANDS AND FEATURES USED FOR THE FIRST TIME: BEGIN, BEGIN BYPASS, BEGINn, SELECT as a comment, CONTROL H, ESCAPE, BREAK, END, LOGOFF, .COST

FILES USED: ERIC

BACKGROUND: All on-line terminal systems have some mechanism to permit users to connect to or disconnect from the service. Depending upon the service, it may be necessary for the user to present some eligibility credentials and maybe some accounting information. Files may need to be chosen if several are available, and output labeling and mailing information may be necessary if off-line printouts are to be received. The system may also give the user the option of working in either a novice or expert mode, providing briefer commands and messages for the more expert user. Many systems will provide tutorial information on-line when requested, usually to give information about specific features or data bases.

The designers of most of the current on-line systems have recognized the reality of user errors, and have incorporated features into the system that make it somewhat tolerant of such mistakes, and permit corrective actions to be taken rather easily by the terminal operator. The simplest kind of a fault is an error in the input character sequence, caused most frequently by typing mistakes or other operator errors, but also by equipment problems. Most systems incorporate a terminal function something like "backspace and erase" that can allow a user to delete a few erroneous characters before they are sent to the computer or before they are processed. In addition to this capability to correct a few erroneous characters, and thus salvage an otherwise useful input character string, there may also be function commands that permit the user to cause the entire prior line typed to be ignored (e.g. "Ignore everything I typed since the last transmit command.") Most systems also incorporate some kind of a break or interrupt command that will cause the computer output character stream to be interrupted and terminated; this is helpful when the system is printing something such as a citation or word list on-line, and the operator does not wish to see any more of it. The DIALOG protocols for such functions are representative of the procedures used by many other on-line services.

In most situations, the on-line services are connected to the terminal via the public telephone system. This might be done with acoustic couplers, or with electrical couplers (MODEMs) between the terminal equipment and the telephone system.

In a few special circumstances, permanent leased lines may be used to couple the terminal to the computer service, but typically a transmission line is dialed up when the on-line service is to be used. In many cases this is done by simply calling the telephone number of the computer center through the public direct dial telephone network. However, in addition to the Bell telephone system, several other private communications networks are in competition to provide data communication services (data only, not voice) that are appropriate for on-line utilities. These commercial data transmission networks have local telephone numbers (network "ports") throughout the country which can be called in order to gain access to their networks. Depending on the locations of the terminal and computer service, it may be considerably less expensive to use the private data transmission services instead of the Bell system for on-line searching.

The on-line computer services, transmission systems, and terminal equipment are available with a variety of operational characteristics such as transmission speeds and method of error checking. Most terminal equipment incorporates some switches or other controls whose settings may need to be changed to match the requirements of different services or communication networks. The communication speed is an important variable; most on-line terminals operate today at 300 baud (30 characters per second). Another major variable is the mode of transmission, full-duplex or half-duplex. In a half-duplex mode, communication takes place in either direction, but in only one direction at a time (e.g., terminal to computer, or vice versa), similar to common CB radio practice. In full-duplex mode, it is possible for communication to take place simultaneously in both directions over the same connection.

DIALOG INSTRUCTION:

1. Password Protocol--Direct Dialing

After dialing the phone number for the DIALOG computer and receiving a steady tone signal, the telephone handset should be placed into the terminal unit's acoustic coupler. The switches on the terminal should already be set in the positions labeled for DIALOG use. The system will respond with the type of exchange shown on the attached page, asking for the user's password. After receiving an acceptable password, the system proceeds with its messages.

As a general rule, all DIALOG commands can be entered either by typing the command name (type BEGIN) or by typing a single key (often a mnemonic character) that has been designated as the equivalent of that typed command (e.g., type ! instead of BEGIN).

Another general practice is that the DIALOG subscriber, at the time that the terminal is first installed, will specify which file will be used as the "default" file to which the system normally goes unless another file is specified by command at the time of the search. (The _____ file is the default file for the terminals used for your instruction.)

All DIALOG commands from the terminal are sent to the computer (character-by-character) as soon as they are keyed. They are examined

and executed after the RETURN key is pressed. The system always shows that it is ready to accept new commands or information by responding with a question mark(?) (i.e. a "prompt" message).

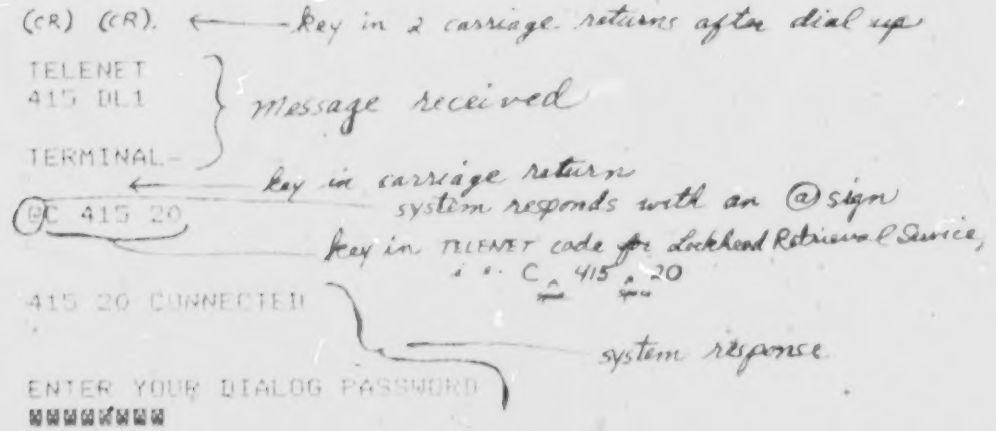
The RETURN key should only be pressed once. If the RETURN or CR key is pressed more than once after a given command (e.g. while impatiently waiting during a slow system response), the system will automatically stop processing the previous command and will respond with a new prompt (?) mark -- thus requiring you to start all over again with the last command.

2. Password Protocol - Data Transmission Networks

If the connection to the DIALOG computer is to be made through a commercial data transmission network (e.g., TELENET of the Telenet Communications Corporation, or TYMNET of the TYMSHARE Corporation) instead of going directly to the computer through a direct telephone call, then there are some additional protocol arrangements to be observed. The specific network arrangements may change from time to time, or from region to region, so reference should be made to the most up-to-date instructions from those networks for your local area.

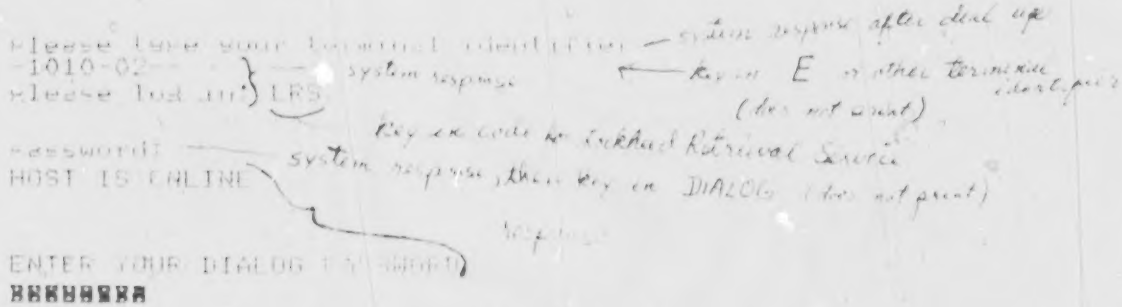
These data transmission networks allow terminals to be connected to any of several participating national or international computer centers by phoning a node of the network that is closest (or cheapest) for that terminal (often a local phone call) and then paying a communications charge of about $8.00-10.00 per connect hour instead of the usually higher direct dial telephone charge. This flat hourly rate is generally the same regardless of where in the country the two end points are located (even for example, from Honolulu to New York).

For the TELENET network, the searcher dials the appropriate TELENET node, and after receiving the signal tone and connecting the headset to the terminal equipment, will receive a message such as that shown below from a typical TELENET startup protocol.


(CR) (CR). ← Key in 2 carriage returns after dial up
TELENET
415 DL1
TERMINAL=
} Message received
← Key in carriage return
system responds with an @ sign
@C 415 20
Key in TELENET code for Lockheed Retrieval Service,
i.e. C 415 20
415 20 CONNECTED
system response
ENTER YOUR DIALOG PASSWORD

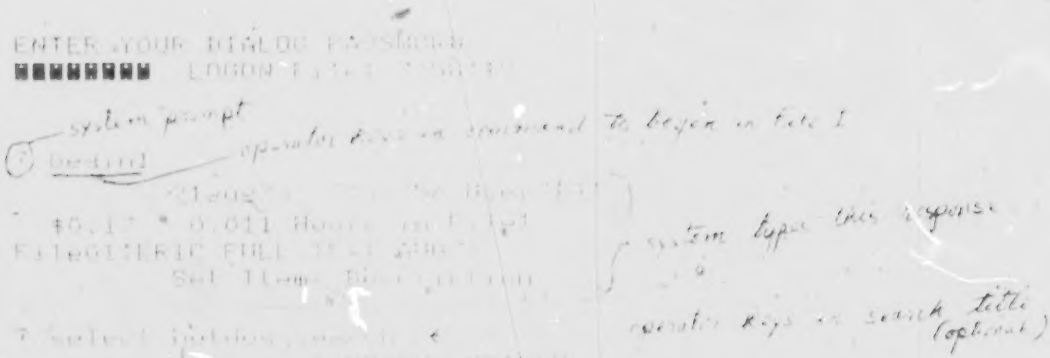
Because the network works with many computer systems and types of terminal equipment, you will need to enter specific information about your system. Up-to-date information on the use of the TELENET system can always be obtained on-line by use of the ?TELENET command described in more detail in Exercise 5.

For the TYMNET network, the startup procedure is about the same, with slightly different system messages. A typical TYMNET startup protocol is shown below.



3. BEGIN

The fastest and most effective way to start the search is to use the BEGINn command as shown below, where n is the number of the file to be searched (type BEGINn or !n).


ENTER YOUR DIALOG PASSWORD
XXXXXXXX
? begin1
system prompt
operator keys in command to begin in file 1
system type this response
operator keys in search title (optional)

For identification of off-line printouts, you should include some brief information as the first comment in the search formulation, using the SELECT command. This command is discussed in more detail in exercise #2.

As mentioned earlier, when starting up the terminal, the system automatically places the user in the pre-determined default file for that terminal. (Default file established for your terminal: _____) Technically, it is possible to start searching in your default file without giving a BEGIN command, and this may save a small amount of time for each search. However, it is considered good practice to use some type of BEGIN command, especially if you often search multiple files, or if several different operators use the same terminal.

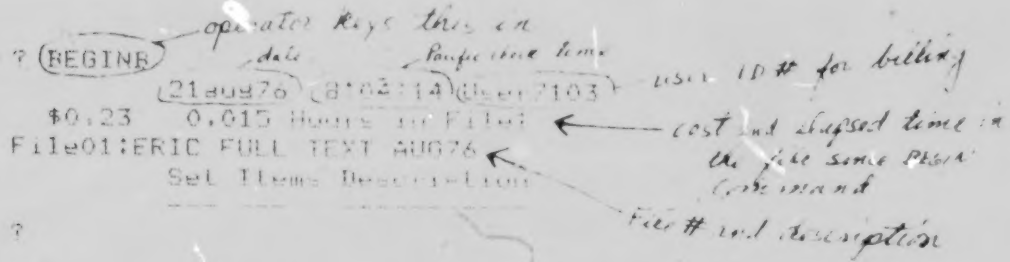
Historically, the DIALOG system has worked with some other forms of the BEGIN command, and those are still available for use. The most complete, but most time-consuming startup procedure is the use of the BEGIN command without specifying a file, as shown below. Note that system time is taken to provide a full menu of the files presently available, and that the system asks the operator to key in the identifying information to be used by the system to label any off-line printout that might be requested during this session. (Even though a mail address is requested during this procedure, the system will mail the output to the mailing address of the possessor of the terminal password.) The one advantage of using this startup procedure is that it causes the offline output to be neatly labelled with a title page.

```
? BEGIN          <-- operator keys this in
        21aug76  8:01:54 User7103
   $0.57    0.038 Hours in File1
Please enter the following information.
Press  CR  key following each entry.
-----------------------------------
Search title
? AIR POLLUTION
Searcher name
? JANE CLEARAIR
Requestor name
? JOHN SMOGMAN
Mail address
? ILR
You may access the following files :
  1*--ERIC FULL TEXT AUG76
  4 --CEC, AUG 76
  6 --NTIS 1964-1976 ISS 17
  9 --AIM & ARM AUG 76
 10 --NAL/CAIN ISS APR 76
Enter number of desired file
? 1              <-- operator selected File 1
Title        AIR POLLUTION
Date/File    21aug76/1
Searcher     JANE CLEARAIR
Requestor    JOHN SMOGMAN
Address      ILR
        Set Items Description
        --- ----- -----------
```

operator keys in response to each ?

system responds with a repeat of the information given above

An alternative way to start is to use a BEGIN BYPASS command (type BEGIN B or !B). This procedure places the operator in the default file for that password. It is done as shown below:


operator keys this in
date
computer time
user ID # for billing
cost and elapsed time in the file some BEGIN Code command
File # and description

```
? BEGINB
          21aug78  8:02:14  User 7103
  $0.23    0.015 Hours in File1
File01:ERIC FULL TEXT AUG78
          Set Items Description
---       --------- -----------
?
```

4. Operator Errors

For a novice operator, the question always comes up, "What happens if I make a typing mistake?" Fortunately, DIALOG is designed to gracefully accept and handle such mistakes. The programs have been written to anticipate a response to almost any type of keyboarding problem or mistake. There is probably nothing that you can do at the keyboard that can bother the system -- all you can do is chew up some extra terminal time and clutter the set listings.

In the event that you use an invalid command or command format, and send it without seeing the mistake, the system will respond with an error message such as the samples shown in the examples below.

operator thought this was the code for BEGIN BYPASS

```
? BB
BB
Invalid command code
```

system response

operator misspelled EXPAND

```
? EXPANKITE
Ref   Index-term                Term Items RT
E1    XLIX-----------------------      2
E2    XLL------------------------      1
E3    XLVIII---------------------      1
E4    XN-------------------------      1
E5    XNESS----------------------      1
E6    XPANKITE?
E7    XPERIENCE------------------      1
E8    XPL------------------------      1
E9    XPLORED--------------------      1
E10   XR-------------------------      3
E11   XS-------------------------      1
E12   X
```

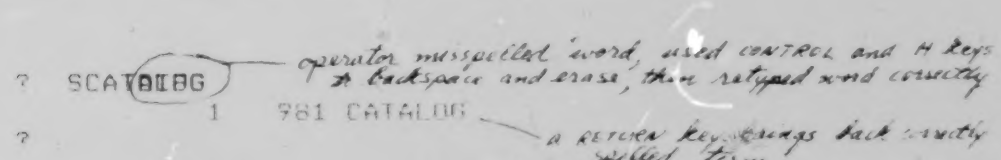
system interpreted E as EXPAND code

operator called for a COMBINE without prior SELECT commands

```
? CDOG AND CAT
CDOG AND CAT
Set number - not a current set
?
```

system response

In the event that you see the keyboarding mistake before you send it, you have a chance to correct it. There is a keyboard function on the TI and some other terminals that acts like a "backspace and erase one character" feature. This function is called up by holding down the CONTROL key and then pressing the H key for each character that is to be erased, starting from the present position of the print head or CRT cursor. Press the H key for as many times as you have characters that you want to erase; this will cause the print head or cursor to back up over the characters to get to the first offending character. After you have erased the offending character, you can resume normal typing with the rest of the character string. An example of this approach is shown below.


? SCATBG
operator misspelled word, used CONTROL and H keys to backspace and erase, then retyped word correctly
1 981 CATALOG
?
a RETURN key brings back correctly spelled term

(Different models of terminal equipment may have different keys for this function.)

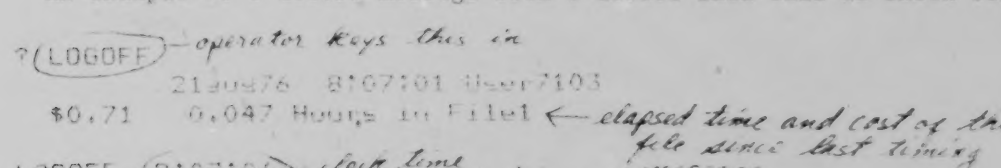
If you wish to erase a whole line, simply press the ESCAPE (ESC) key, followed by RETURN. The system responds quickly with a new ? prompt. If all else fails, just send the erroneous command or data, and ignore the results that come back (although this may result in an extraneous line of material in the set history).

The BREAK key can be used at any time to interrupt the on-line printout or display transmission (simply press the BREAK key) without bothering the search sequence. However, using the BREAK key after a stacked command sequence (described later in Exercise #2) will cause the system to ignore any commands which had not yet begun processing at the computer.

5. Signoff

The operator terminates the terminal activities in either of two ways. The final and irrevocable command is LOGOFF. When the LOGOFF command is typed, the system stores the items that were ordered to be printed, types out some accounting records related to that current usage, and disconnects the telephone line. This is the command you should always use when you are finished with the terminal and ready to walk away from it. Most models of terminal equipment include a carrier or signal light of some kind to show you when the telephone circuit is complete and a carrier signal is being transmitted. When that light goes out, you know that your phone line to the computer has been disconnected.

An example of a LOGOFF message from a direct dial call is shown below:


?(LOGOFF)
operator keys this in
21JUN76 8:07:01 User7103
$0.71 0.047 Hours in File1
elapsed time and cost of this file since last timing message
LOGOFF (8:07:06 clock time (Pacific time))

The LOGOFF procedure with the telecommunication networks is similar to that of the direct dial except that you are merely disconnected from DIALOG but not from the network until you hang up the phone. Both TELENET and TYMNET allow you to remain connected to the network for a short time in case you should want to connect to another service without re-dialing the phone.

As shown below, for the TELENET network, you will receive a disconnect message from the code for the Lockheed Retrieval Service as well as a new @ sign, permitting you to connect to another service.

```
415 20 DISCONNECTED
@
```

TYMNET is similar, but the message reads:

```
DROPPED BY HOST SYSTEM
Please log in:
```

The LOGOFF command cannot be "stacked" with other commands.

Another intermediate stopping point is the END command which may be used by the operator to signal the completion of a single search and the beginning of a completely different topic during the same terminal session. The END command stores the items commanded to be printed off-line, and gives a timing and accounting record for the search just completed. Note that the BEGIN command also accomplishes these functions. The END command, however, does not reset the search history, which can be continued if desired. This will be noted in later exercises. The END command provides a useful way to get timing information printed at any point during a terminal session. An example of an END command is shown below:

```
?END
```

Note that the END, LOGON, and LOGOFF commands are always associated with a time message that corresponds to conventional clock time (hours: minutes:seconds). However, the search time (or elapsed terminal time), to simplify accounting records, is always given in decimal hours. If desired, this time can be converted into minutes by multiplying by 60.

6. Costs

Each time that a timing message is printed at the terminal (after each BEGINn, END, LOGOFF, or file change command), an accompanying cost message

is also automatically printed. This data tells you the costs incurred since the last cost message. Considering the way in which these commands are most often used, this printout usually amounts to an estimate of the costs incurred to do a search in a particular data base. It includes subtotals for on-line time, off-line print charges, TELENET or TYMNET charges, and a total cost. If your wish to obtain a record of intermediate costs incurred during the course of a search, then you can enter the .COST command and receive this information on-line. This command does not reset the cost figure as do the other commands. An example of such a printout is given below.

```
? .COST
          3nov76 16:11:22 User6065
  $1.45   0.058 Hours in File1
  $0.46  Telenet
  $1.91  Estimated Partial Cost
?

? LOGOFF
          3nov76 16:17:22 User6065
  $3.95   0.158 Hours in File1
  $1.26  Telenet
  $5.21  Estimated Total Cost

LOGOFF 16:17:29
```

If you need to compute the costs of connect time and/or telecommunication time for a search, simply multiply the elapsed time shown on the printout by the hourly cost of connect time for the data base being used and/or the hourly cost of telecommunication connect time.

7. What to do when the system goes down:

Occasionally a search will be interrupted midway by a system failure. Such interrupted service results most usually from a communication system disconnect or from a Lockheed system failure. Such failures will be evidenced by receiving no reaction from terminal for longer than the acceptable time or by the carrier light on the terminal going out, or by display of the following messages:

Lockheed message:	ENTER YOUR DIALOG PASSWORD
TYMNET message:	DROPPED BY HOST SYSTEM Please log in:
TELENET message:	415 20 DISCONNECTED @

In most cases, any off-line prints requested before the failure will be printed and the set history will be saved for a minimum period of 10 minutes after the system is restored. Time and cost accounting stops as of the last command entered before the failure.

The following procedures are suggested in the event of such a failure:

Lockheed System Failure: (direct dial access)

(1) Try to dial back immediately

(2) If the phone just keeps ringing, wait 5 to 10 minutes, then dial back again. Continue trying to dial back at 5-minute intervals. A good rule to remember is that most failures are corrected within 10 minutes. (An effort may be made to phone the Lockheed Help-Question Desk to ask for information, but this number may be busy with other users calling for the same reason.)

(3) When reconnection with the system is made, re-enter your DIALOG password. If the message is "RECONNECT..." instead of "LOGON..." it usually means that your previous search work has been saved. Do NOT issue a BEGIN command. Do a DISPLAY SETS (DS) command (described in Exercise #4) to reassure yourself that the sets have not been lost during down time.

TYMNET failure:

(1) Dial back immediately. Do not issue a BEGIN command.

(2) Do a DISPLAY SETS command to reasure yourself that the sets have not been lost during the down time.

(3) In the event that TYMNET will not accept your log-in, dial another nearby TYMNET number or dial Lockheed directly.

TELENET failure:

(1) Dial back immediately. Do not issue a BEGIN command.

(2) Do a DISPLAY SETS command to reassure yourself that the sets have not been lost during the down time.

(3) In the event that TELENET will not accept your log-in, dial another nearby TELENET number or dial Lockheed directly.

ON-LINE EXERCISE

For the location and terminal equipment to be used for this and the remaining exercises, the following network and equipment variables should be furnished by the lab supervisor:

Communication Mode	Telephone Number To Be Used	Terminal Type Code To Be Entered	Switch Settings		
			Parity	Duplex	Speed
Direct dial					
TELENET					
TYMNET					

Each student is to use their own personal password for each exercise, and all resulting terminal printouts are to be fan-folded and returned with the completed corresponding OFF-LINE QUESTIONS pages of this lab workbook to the instructor as part of each lab exercise. For this first exercise, spell out the commands instead of using the symbols, in order to make the printout easier to read later.

1. Dial the DIALOG computer center directly and start up the terminal with a BEGIN command. As soon as you have finished the initialization dialogue (names, title, address), and the system has printed the list of available data bases, and has received your file number (key in the number for the ERIC file), and has responded with a ? mark, give an END command. After the response has been received, key in the character sequence EXPLAIN TELENET1 which is a request for more information (and will be described further in Exercise #5). After the system response has been completed, give a LOGOFF command.

2. Start up the terminal again, this time go through the TYMNET network, using a BEGIN BYPASS command. As soon as the terminal is ready for use, type S and your name, then sign off with a LOGOFF command.

3. Start up the terminal again, using the TELENET network, and using the BEGINn command with File 1. As soon as the terminal is ready for use, type S and your name, then sign off with a LOGOFF command.

OFF-LINE QUESTIONS EXERCISE #1 STUDENT NAME_____

1. Annotate each of the pieces of accounting information that were printed as a result of one of your END and LOGOFF commands, to show what they mean.

2. Fill in column 2 of the table below with your elapsed time for each of the startup techniques.

3. At the present commercial rate of $25/hr. of connect time for the ERIC data base, compute the startup costs associated with each of these techniques and enter them in column 3 of the table below.

4. Do the same in column 4 for the BIOSIS data base at the present commercial rate of $65/hr.

5. Compute the cost savings achieved for each of these data bases by using the startup techniques other than the full BEGIN, and enter this information in the last columns of the table below.

Startup Technique	Elapsed Time (in decimal hrs.)	Startup Cost With ERIC File at Present Commercial Rates	Startup Cost With BIOSIS File at Present Commercial Rates	Cost Savings Over Full BEGIN by Using This Technique	
				ERIC	BIOSIS
Full BEGIN				--	--
BEGIN BYPASS					
BEGINn	_____				
TOTAL		--	--	--	--

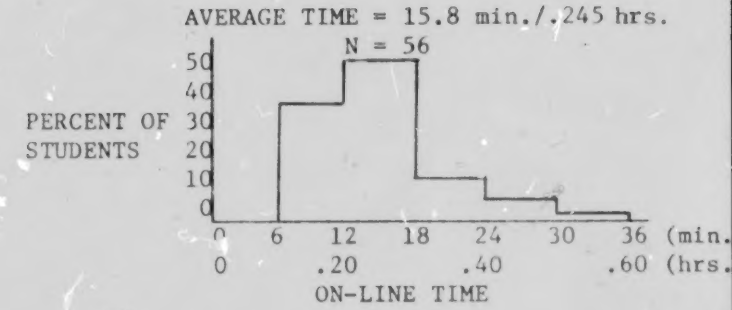
6. Compute the data transmission costs to connect your terminal to the DIALOG system for connect times of 5, 30, and 60 minutes. Enter the data in the table below.

Transmission mode	Rate	Cost for 5 min. Connection ($)	Cost for 30 min. Connection ($)	Cost for 60 min. Connection ($)
Direct dial				
TYMNET				
TELENET				

SUMMARY

You now know how to start and stop the system, connect your terminal to the DIALOG system via 3 different communications networks, and correct some of your mistakes. You have also seen that there are significant cost differences in the startup procedures that are used. Furthermore, you have probably observed that the relative costs of the alternative transmission networks depend upon the geographic location of your terminal, and can vary significantly between the alternatives.

DIALOG LAB EXERCISE #2
(EXPAND and SELECT Terms)



OBJECTIVE: To learn to EXPAND and SELECT search terms

COMMANDS AND FEATURES USED FOR THE FIRST TIME: EXPAND, PAGE, SELECT SELECT WITH TRUNCATION, SELECT SUB-FIELDS, COMMENTS

FILES USED: ERIC

BACKGROUND: Most on-line search systems build, separately for each data base, an alphabetical list of all the search terms used in that file. Any part of this list can be examined on-line by the operator, and terms can be selected from this list to be used as part of a search statement Typically, the operator keys in a character string of interest (e.g., a word, author, report number), and the system comes back with a display (CRT or printed) of the terms that are alphabetically adjacent to the term entered (often a few terms preceding the keyed term, and then as many terms as you want after the keyed term). The major reasons for providing such a system feature are:

1. To provide the searcher with suggestions regarding alternate forms of the term of interest that might not otherwise be considered for the search (e.g., compute, computer, computed, etc.). This function could also be served by inspection of available word frequency lists (printed or microform) for that file before coming to the terminal; however this may be more cumbersome, and the lists may be unavailable, incomplete, or out of date.

2. To reduce the amount of keyboarding work and time in those cases where a large number of related terms are to be used in the search formulation.

If some of the data base terms are under thesaurus control, then the machine file may also include and show the subject-related linkage (as defined by the thesaurus) as well as the alphabetic relationships. In the ERIC data base, for example, some of the index terms will be annotated to show when they have one or more related terms (RT) according to the ERIC Thesaurus. Some search systems will even automatically include all subordinate subject-related terms into the search statement if the appropriate command is given with the search term.

Many of the systems have an alphabetic file of index terms that are a composite of the terms used in several different data fields (i.e., a single alphabetic list of all the terms used as index terms, title words, abstract words, or words from the corporate author field). These composite term lists may be the "default" term list for a system, and are called up for the operator unless otherwise specified. Such systems nearly always provide a refinement that permits the operator to restrict the search to a subset of those terms that are associated with a specified field (e.g.,

author names only, title words only). For any given system these subfiles are usually built separately for each different data base.

DIALOG INSTRUCTION:

1. EXPAND to Find Alphabetically-Related Terms

For a given data base, DIALOG will provide a display of alphabetically-related search terms by using the EXPAND command (type EXPAND or E or ") followed by the character string of interest. The system then responds with about 20 lines of type or CRT display as shown below. If additional terms in this sequence are desired, they can be obtained by giving the PAGE command (type PAGE or P) as shown by the example below.

DIALOG is fairly insensitive to spacing between a command and the rest of the character string. For example, the system will accept either EXPAND RATS or EXPANDRATS or E RATS or ERATS.

```
? EXPANDDISADVANTAGED
Ref   Index-term                  Type Items RT
E1    DISAD----------------------       2
E2    DISADV---------------------       2
E3    DISADVANTADED--------------       1
E4    DISADVANTAGE---------------     162
E5    DISADVANTAGE ENVIRONMENT         1
E6  -DISADVANTAGED---------------   10888  1
E7    DISADVANTAGED ADULTS-------       1
E8    DISADVANTAGED CHILDREN---              1
E9    DISADVANTAGED
        ENVIRONMENT----------------     213 10
E10   DISADVANTAGED ENVIRONMEN
        T COGNITIVE DEVELO-------       1
E11   DISADVANTAGED GROUPS--------    1395  9
E12   DISADVANTAGED SCHOOLS-------      83  1
E13   DISADVANTAGED STUDENTS-----           1
E14   DISADVANTAGED YOUTH--------    5142 11
E15   DISADVANTAGEDNESS----------       4
E16   DISADVANTAGEGEGE-----------       1
E17   DISADVANTAGEMENT-----------    1683  1
E18   DISADVANTAGEMENTS----------       1
                                        -more-
? P
Ref   Index-term                  Type Items RT
E19   DISADVANTAGEOUS------------       7
E20   DISADVANTAGES--------------     684
E21   DISADVANTANTAGED-----------       1
E22   DISADVANTATED--------------       1
E23   DISADVANTED----------------       1
E24   DISADVANTEGEMENT-----------       1
E25   DISADVATAGED---------------       1
E26   DISAFFECTED----------------      16
E27   DISAFFECTION---------------      18
E28   DISAFFECTIONS--------------       2
E29   DISAFFILIATED--------------       1
```

Note that the display also shows the number of citations in the file that use that term. The system assigns and displays a temporary serial code (E1, E2, ...) to each of the displayed terms in order to simplify the later identification and use of these terms by the terminal operator. The system-assigned E numbers run from E1 to E51 or E52, and are then recycled.

The typing or display of the EXPANDed terms can be terminated at any time during the EXPAND process when the operator sees that the listed terms are no longer relevant. This can be done by pressing the BREAK key to stop the action. (Don't try to type the word BREAK.) This can help to save terminal time and paper.

2. EXPAND to Find Subject-Related Terms

In the above example from the ERIC data base, the rightmost column shows when a term has some other terms connected to it in a subject relationship defined previously by the ERIC thesaurus. The system can now provide a display of these specific subject-related terms by calling for an EXPAND of the appropriate E-number assigned by the system to each of the displayed terms, as shown by the example below.

```
? EE14
Ref  Index-term                    Type  Items RT
R1   -DISADVANTAGED YOUTH-----            5142 11
R2    CULTURALLY DEPRIVED
        CHILDREN-----------------U          1
R3    DEPRIVED CHILDREN--------U            1
R4    DISADVANTAGED CHILDREN---U            1
R5    DISADVANTAGED STUDENTS---U            1
R6    INNER CITY CHILDREN------U            1
R7    SLUM CHILDREN------------U            1
R8    DISADVANTAGED GROUPS----R    1395     9
R9    YOUTH-------------------R   10599    22
R10   CHILD DEVELOPMENT
        CENTERS-----------------R     116     6
R11   CULTURALLY DISADVANTAGEDR    1659    11
R12   STUDY CENTERS-----------R      82    10
?
```

indicates header (R) related (R) not used (U) terms with ay

The display will show subject-related terms only when such term relationships have been previously established by a thesaurus for that data base. Data bases that do not have an associated thesaurus (e.g. Social Sciences Citation Index) will have blank entries in the RT column.

This 2-step expand procedure can be avoided if desired, by using a direct expand in the manner shown below, by placing parentheses around the term of interest.

```
? E (DISADVANTAGED YOUTH)
Ref   Index-term                    Type  Items RT
R1    -DISADVANTAGED YOUTH-------          5142 11
R2    CULTURALLY DEPRIVED
        CHILDREN-----------------U          1
R3    DEPRIVED CHILDREN--------U          1
R4    DISADVANTAGED CHILDREN---U          1
R5    DISADVANTAGED STUDENTS---U          1
R6    INNER CITY CHILDREN------U          1
R7    SLUM CHILDREN------------U          1
R8    DISADVANTAGED GROUPS-----R  1395    9
R9    YOUTH--------------------R 10599   22
R10   CHILD DEVELOPMENT
        CENTERS----------------R   116    6
R11   CULTURALLY DISADVANTAGEDR  1659   11
R12   STUDY CENTERS------------R    82   10
?
```

If a thesaurus entry does not exist for an attempted term, the system will revert to the basic index and will display E numbers rather than the related terms (R numbers).

3. SELECT from EXPAND Display

Terms of interest for the search formulation can be taken from the EXPAND lists by use of the SELECT command. The use of this command (type SELECT or S or #), followed by the E-number of interest, causes the designated term to be set aside as a logical set or building block to be used later in the search formulation. Each such set is assigned a unique serial set number by the system in order to simplify its later use by the operator.

The SELECT command can be used with a single term from the EXPAND list (e.g., SELECT E6); it can also be used with a continuous range of terms from the EXPAND list (e.g., SELECT E7-E9) or with several terms not necessarily in sequence (e.g., SELECT E11, E14, E17). No more than about 25 E-numbers can be SELECTed with a single range command.

When several E-numbers are specified in one SELECT command, the citation sets corresponding to the separate terms are automatically combined together by the system in a logical OR operation, with only the resulting total set given a set number. These logical operations are described in more detail in a later exercise.

Each SELECT command results in a line of display or printout that shows a set number for that term (or set of terms) along with a total of the number of citations that use that term (or terms), as illustrated by the examples shown below.

```
? SELECTE4
          1    162 DISADVANTAGE
? SE5-E7
          2  10889 E5-E7
                   E6: DISADVANTAGED
? SE9-E14
          3   6663 E9-E14
                   E6: DISADVANTAGED
? SE17-E19
          4   1690 E17-E19
                   E6: DISADVANTAGED
?
```

The above functions could be achieved faster by combining all of the desired SELECT actions into a single command as shown below.

```
? SE4-E7,E9-E14,E17,E19
      5 12039 E4-E7,E9-E14,E17,E19
              E6: DISADVANTAGED
?
```

Unfortunately, the descriptive information printed with each set number is restricted to a rather small number of characters, which results in some of the typed or displayed descriptions (but not the actual terms) being truncated.

If they are to be used, terms from the EXPAND list (e.g., E5, E8-E11) or from the EXPAND related list (e.g., R6-R10) must be SELECTed before giving another EXPAND command. As a matter of fact, terms remain available to be selected from both an EXPAND list and its related EXPAND list (e.g. EXPANDterm followed by a PAGE command, or EXPANDterm followed by an EXPANDR#) until the next EXPAND command is given (e.g. you can give a SE14, SR6-R10 sequence). (After another EXPAND command has been given, the prior EXPAND list and E-numbers are erased.)

4. Direct SELECT

The SELECT command may be used directly without being preceded by the EXPAND command. This is done by following the command with the character string of interest, as shown below:

```
? SFUNGICIDES
      1  1664 FUNGICIDES
?
```

The SELECT command can be used directly with any term of interest. However it requires an exact character match, and will not retrieve terms that differ slightly in spelling, punctuation, or the use of special characters.

The SELECT command will often turn up empty sets as shown by the example below.

```
? SLIBRARRY
      15      0 LIBRARRY
? SLIBRARY
      16  9863 LIBRARY
?
```

Note that certain terms (e.g. ELECTRICAL, ELECTRODE, ELECTIVE) when SELECTed by an S without a space, spell out the word SELECT. In this ambiguous situation, the system will try to retrieve on the character string following this word, with amusing results. In these cases, simply use a space after the S.

And as shown below, the SELECT command can also be used by the operator to include comments or notes (up to 30 characters of type) in the record of the search formulation.

```
? SLIBRARY MANAGEMENT FOR JOE
        17      0 LIBRARY MANAGEMENT FOR JOE
```

Unlike a SELECT with a range of E-numbers or R-numbers, a single SELECT command can only be used with a single term or term phrase. You may stack several SELECT commands together on the same line or input string, by separating each command by a semicolon as shown below.

```
SDOGS;SCATS;SMICE
```

If you forget to include the S or the semicolon you may get the problem shown below.

operator thought these terms could be stacked on one SELECT command

```
? (SDOGS,CATS,MICE)
        18      (0) DOGS,CATS,MICE
?
```

0 response because system read entire string as one word

5. SELECT With Truncation

The SELECT command can also be used with right-truncated words. This is an unconditional truncation in that the system does not care how many characters follow the word stem. This feature is called up simply by keying a question mark at the point of truncation, as shown in the example below.

```
? (SCOMPUT?)
        19  11004 COMPUT?
?
```

operator keys this in

Up to 800 different terms with the specified root can be selected by the use of a single command. If there are more than 800 index terms or phrases in the file beginning with the stem being searched, a message will be issued to direct the searcher to respecify the stem.

```
? (S PRE?)
        S PRE?
        800 terms; respecify
? (S PRESCHOOL?)
        4   2088 PRESCHOOL?
?
```

operator keys this in

system response

operator respecifies

Truncation can be a mixed blessing. It is usually wise to avoid short stems that could be used with many different words. Consider the word BEE and its plural BEES. If truncated to get both, you would also retrieve BEEF,BEEFALO, BEER, BEEN, and many others. A good rule of thumb is to truncate where the word stems diverge (e.g. LIBRAR for LIBRARIANS, LIBRARIES, LIBRARY, ... and not LIB which would also retrieve LIBERTY, LIBERAL, ... etc.).

The system has a limit of 98 sets for any search formulation.

6. Suffix Codes for Specific Subject Fields

The basic index, the main subject-conveying word file, is a merged file containing the components below. (This is discussed in more detail in Exercise 4.) The subject sub-files are identified with suffixes instead of prefixes, as shown by the ERIC file examples below:

SUFFIX	FIELD	FORMAT EXAMPLE
TI	title	COMPUTERS/TI
AB	abstract	COMPUTERS/AB
DE	descriptors	COMPUTERS/DE
DF	descriptors (full)	EDUCATION/DF
ID	identifiers	ERIC/ID
IF	identifiers (full)	CALIFORNIA/IF
CS	corporate source	GEMCO/CS
NT	descriptive note	PAPER/NT
SA	sponsoring agency	EDUCATION/SA

Further information about suffixes used in ERIC and several other files is given in Appendix A.

If a SELECT is used with a term and no qualifying suffix, you will search in all of the subject-conveying sub-files. If you wish to restrict the search to the terms in a specific sub-file (e.g. title terms only), then the suffix permits you to do this.

Suffixes are used only with the SELECT and EXPAND command, and may be combined in the same command in order to easily specify several fields for searching. The following examples show searching for terms in increasing volumes of data:

SELECT COMMAND	THIS COMMAND SEARCHES FOR THE TERM LIBRARIES IN THE FOLLOWING SUB-FILES
S LIBRARIES/DE	term used as a Descriptor
S LIBRARIES/DE,ID	" " " " " or Identifier
S LIBRARIES/DE,ID,TI	" " " " " " " , or in title
S LIBRARIES/DE,ID,TI,AB	" " " " " " " " " " or in abstract
S LIBRARIES	term used in any of the subfields

The suffix codes cannot be used with a truncated stem. Separate SELECT statements must be made for each variation of the word, as shown in the example below.

operator used truncation with suffix code

```
? (SUNION?/TI)
          20      0 UNION?/TI
? SUNION/TI                    response indicates 0 citations
          21    290 UNION/TI
? SUNIONS/TI
          22     74 UNIONS/TI
? SUNIONIZATION/TI
          23     23 UNIONIZATION/TI
?
```

separate SELECT statements for each variation

7. Prefix Codes for Subfields

Both the EXPAND and SELECT commands can be limited to specific data fields (e.g., author, title) within a data base, by use of prefix or suffix codes defined separately for each file. For example, in the ERIC file, the prefix AU= limits the EXPAND or SELECT operations to the author entries. In the example shown below, EXPAND AU=POWER provides a display of author names alphabetically near to POWER, and none of the subject or other terms related to POWER. Because the data bases differ in regard to author entry format, and because the author field is very space and punctuation sensitive, a good starting point for beginning searchers is to key in only the author's last name when EXPANDing an author.

```
? (EAU-POWER)  operator keys this in
Ref   Index-term                    Type Items RT
E1    AU-POWELL, THOMAS F.,
        ED.------------------------    1
E2    AU-POWELL, THOMAS J.-------      3
E3    AU-POWELL, TONI------------      1
E4    AU-POWELL, WILLIAM R.------     11
E5    AU-POWELL, WILMA R.--------      1   identifies prior term
E6  (AU-POWER--------------------)
E7    AU-POWER, ANN--------------      1
E8    AU-POWER, C. M.------------      5
E9    AU-POWER, COLIN M.---------      3   number of citations associated with this author
E10   AU-POWER, D. J.------------      2
E11   AU-POWER, DESMOND J.-------     1
E12   AU-POWER, DONALD-----------     1
E13   AU-POWER, EDWARD J.--------     1
E14   AU-POWER, ELLEN M.---------     1
E15   AU-POWER, HILTON-----------     2
E16   AU-POWER, HILTON M.--------     1
E17   AU-POWER, HILTON
        MCCARTHY-----------------      1
E18   AU-POWER, JAMES D.---------     1
                                     -more-
?
```

It is possible to use the SELECT command directly with a subfield, as shown by the example below. However the use of the EXPAND command with specific subfields is the recommended procedure when working with personal author names, because they have so much variation in form.

```
? SAU-LANCASTER, F. WILFRID
        28    (1) AU-LANCASTER, F. WILFRID   one citation located
? EAU-LANCASTER,
Ref   Index-term                    Type Items RT
E1    AU-LANAGAN, T. P.----------      1
E2    AU-LANAGHAN, DAVID M.------      1
E3    AU-LANAHAN, M. PETER-------      1
E4    AU-LANAHAN, WILLIAM F.-----      1
E5    AU-LANARD, PAMELA----------      1
E6  (AU-LANCASTER, ------------)
E7    AU-LANCASTER, F. W.--------      6
E8    AU-LANCASTER, F. WILFRID     )   1
E9    AU-LANCASTER, F.             )   3   variations of this author's name in entries
        WILFRID, ED.-------------  )
E10   AU-LANCASTER, F.W.---------  )   1
E11   AU-LANCASTER, H. G.--------      1
E12   AU-LANCASTER, JOHN---------      3
E13   AU-LANCASTER, JOHN S.------      1
E14   AU-LANCASTER, JOSEPHAS
        JACKSON-------------------      1
E15   AU-LANCASTER, JOYCE W.-----      1
E16   AU-LANCASTER, LOUISE-------      1
E17   AU-LANCASTER, OTIS E.------      3
E18   AU-LANCASTER, RICHARD B.---      1
                                     -more-
? SE7-E18
        27    (11) E7/E18            11 citations located
                E8: AU-LANCASTER,
?
```

As shown above, the search by a SELECT command would have been more productive by first doing an EXPAND of this author. When searching for all articles by a given author, this EXPAND and SELECT method will yield the best results.

The truncation feature, shown below, is also useful for author searching.

```
S AU=COOPER, W?
S AU=COOPER W?
```

This technique is most useful when combining the resulting set with another facet (e.g. for articles by a W. Cooper on XXX subject). To use the truncation feature effectively in the author field, one has to know the author format of the particular data base being searched (e.g. Some use a comma following the family name and some do not). See Exercise #8 for examples of these variations.

For the ERIC data base, the following prefix codes are used to restrict the EXPAND or SELECT attention to the following subfiles in that data base:

PREFIX	FIELD	FORMAT EXAMPLE
AC=	area code (legislative)	AC=32
AU=	personal author	AU=WHITE, A
CN=	contract or grant #	CN=OE-2214
CH=	ERIC clearinghouse code	CH=EC
DT=	document type	DT=B
SC=	institution code, or sponsoring agency code	SC=AHP0G230
IS=	issue of RIE or CIJE name	IS=RIEAUG75
JO=	journal name	JO=AAUP BULLETIN
PN=	project number	PN=H-530041
RN=	report number	RN=TM/3000
UD=	update	UD=750[illegible]
YR=	year	YR=7[illegible]

The full lists of codes (e.g., for all the ERIC Clearinghouses) are given in Vol. 2 of the Lockheed DIALOG manual. A summary of the prefix codes used in the ERIC and several other files is given in Appendix B of this workbook.

ON-LINE EXERCISE

(The END commands have been added in order to provide timing information for the homework. You may continue the assignment after each problem without using a new BEGIN.)

1. Start up the terminal in the fastest possible way, with the ERIC file, and EXPAND the term APTITUDE. When this command has been completed, call up the next page of the term list with a PAGE command, terminating the listing with a BREAK command after all of the APTITUDE-like terms have been displayed.

2. SELECT all of the alphabetical APTITUDE-like terms that appear on your display.

3. EXPAND APTITUDE to find the subject-related terms.

4. From the subject-related terms, SELECT all of the terms you consider to be relevant to APTITUDE. Type END.

5. SELECT the term COST in a series of commands, working with larger and larger fields of data:

   COST used as either a Descriptor or Identifier
   COST used as Descriptor, Identifier, or in a title
   COST used as Descriptor, Identifier, or in a title or abstract
   COST used in any field.
   END.

6. SELECT the term OCLC from the title sub-file. END.

7. EXPAND and SELECT an author of interest to you. END.

8. Use the SELECT command to write a note to yourself.

9. Use the SELECT command (with the command in both a coded and spelled out fashion, and both with and without a space character after the command) with the term ELECTRONICS. END.

10. As a test of the truncation search feature:

    SELECT separately the terms LIBRARY and LIBRARIES and LIBRARIANS
    SELECT the word root LIBRAR
    LOGOFF.

OFF-LINE QUESTIONS EXERCISE #2 STUDENT NAME_____

1. On-line time taken for this exercise?

Problem	Time (hrs.)
1-4	
5	
6	
7	
8-10	_____
TOTAL	

2. Number of citations in the file that use the term APTITUDE alone?

3. Number of terms in this file that are noted as subject-related to APTITUDE?

4. Total number of citations that use variants of the term APTITUDE?

5. What happens in Problem #5 when the term COST is searched in increasing numbers of data fields?

6. What's the problem in Problem #9?

7. Using the latest available printed ERIC thesaurus, and available word frequency lists (printed or microfiche), identify those alphabetically-related APTITUDE-like terms that you found as a result of your EXPAND command that are not included in any of these analyst support tools.

Thesaurus or Word Frequency List	Terms Found by the EXPAND That Were Not in This Tool
i. Thesaurus of ERIC Descriptors. ____ edition. 1974	
ii. ERIC Descriptor and Identifier Usage Reports. 1973 a) Descriptor Usage	
b) Identifier Usage	
iii. DIALIST	

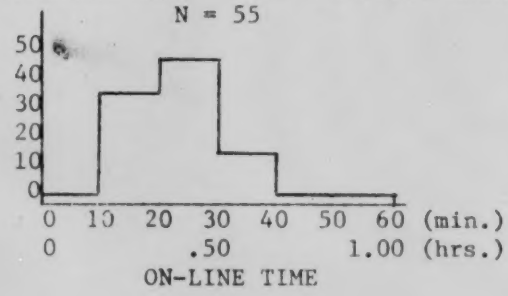
SUMMARY

You have now learned to use the most frequently used commands, SELECT and EXPAND. These are the commands that are necessary to assemble the terms that are to be used in the search formulation. You have also seen how to restrict the search to particular data fields such as the author or title fields. The truncation search capability feature is very powerful but you will need to have more practice in its use in order to gain a feeling for the false drop problems that can be encountered in its use. The prefix and suffix codes are very important, and you will need to continue to review and use them in order to understand how they can be used to best advantage; they also need to be understood in the context of the specific data base that is being used.

With regards to the SELECT command, some general observations can be made for later consideration: 1) the shorter the word stem in truncation searching, the greater the search yield, often with false drops (e.g. COMPUT? will retrieve more citations than COMPUTAT?); 2) the larger the number of data fields searched, the greater the search yield (e.g. S BOOKS will retrieve more citations than S BOOKS/TI); the yield of author searching is greatly improved by the use of the EXPAND or truncated stem search features on the author's name.

An EXPAND command nearly always shows more terms than would be found in the available thesaurus or term frequency list for a given data base, primarily because it is assembled from a larger and more current file. When a data base has a controlled vocabulary, and when the term relationships are represented by a thesaurus, then these term relationships are incorporated into the machine file and can be shown on-line with the EXPAND command. This is a very helpful feature, as you will find when working later with data bases that do not have such authority control measures.

AVERAGE TIME = 23.5 min./.392 hrs.
N = 55



DIALOG LAB EXERCISE #3
(LOGIC)

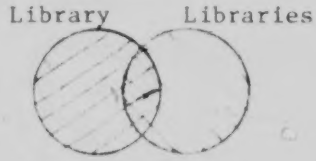
OBJECTIVE: To learn to use the logical operators AND, OR, NOT

COMMANDS USED FOR THE FIRST TIME: COMBINE

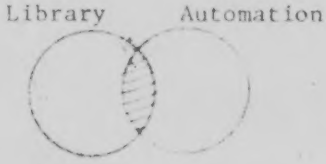
FILES USED: ERIC

BACKGROUND: All on-line retrieval systems provide a means for combining search topics into logical groups with the AND, OR, and NOT operators. The systems differ however in the notation systems used, and in the maximum number of operators permitted with a search statement. Almost all on-line systems work entirely with Boolean operators instead of using weighted term searching.

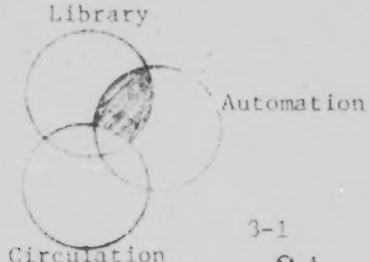
The OR operator causes retrieval of any or all of the ORed terms. Thus the retrieval of the terms LIBRARY OR LIBRARIES will be made on all documents having one or more of these terms.



The AND operator causes retrieval of documents where two or more terms or sets of terms co-occur. Thus the search terms LIBRARY AND AUTOMATION will retrieve only those documents containing both of these words in the citation.



The NOT operator, on the other hand, prevents documents indexed under specified terms from being retrieved. Thus the expression LIBRARY AND AUTOMATION NOT CIRCULATION will retrieve documents that include both of the terms "library" and "automation," but will exclude those documents that have the term "circulation."



Most systems also provide a means to permit searching with truncated word stems, and to permit some restrictions to be placed on the coincident proximity of multiple search terms in a citation (e.g. the two terms of interest must be adjacent to each other).

Some systems permit a search term to be entered directly with the logical operator, while other systems such as DIALOG require the terms to be SELECTed before they can be used with any logic operator.

DIALOG INSTRUCTION: The COMBINE command (operator types COMBINE or C or $) is used for all logical operations, followed by a notation of the logic function of interest. This command only works on previously numbered sets, and will not operate directly with search terms.

The logical operator may be spelled out or represented by a designated symbol. Several contiguous sets can also be logically grouped together by specifying a range of set numbers, followed by a slash and the logical command.

1. The OR Operation

The OR relationship for a series of terms can be expressed in the following ways -- by spelling out the OR, or by using a + symbol:

```
C 1 OR 2 OR 3 OR...n (max. n = ca. 25)
C1OR2OR3OR...n
C1 + 2 + 3 +...n
C1+2+3+...n
C1-n/OR
C1-n/+
```

The maximum n is around 25; this is actually determined by a limitation of a command string of 3 lines of instruction.

As noted by the example below, the command is fairly insensitive to space characters.

```
      C1 AND 2
                28    136 1 AND 2
    ? C8OR9
                29    7627 8OR9
    ? C 8 OR 9
                30    7627  8 OR 9
    ? C8 OR 9
                31    7627 8 OR 9
    ? C 8OR9
                32    7627  8OR9
    ? C8 OR 9
                33    7627 8 OR 9
    ? C8  OR  9
                34    7627 8  OR  9
    ?
```

The string of logic statements is limited in size to what can be represented on one line of terminal display. This need not limit the searcher because a final search formulation string representing a lot of logic could be built up from several sets of sub-strings.

If several terms have large numbers of records posted to them (e.g. EDUCATION in the ERIC file), use of these very large sets, especially in OR relationships, can sometimes exceed the working storage capacity assigned to your terminal by the computer system. The maximum number of citations allowed in working storage for one search is about 600,000. It should usually be possible to formulate a search in a way that doesn't build such large sets that overflow conditions result.

Since a term must first be SELECTed and then COMBINEd (so that the postings for the term are maintained twice in the working storage, once as originally selected and again as part of the ORed set), it is prudent to use such excessively large sets in combination with AND logic, so that the second set of postings for the large sets will include only those satisfying another, ANDed parameter. The file overflow situation happens when working with very large sets such as heavily posted terms (e.g. EDUCATION) or large file partitions (e.g. English-language publications) in a data base. It is difficult to predict when it might happen. When it does happen, none of your prior work is damaged in any way; you are simply put on notice that you will not be able to carry out the step you just initiated. You can often anticipate and avoid this trouble by forming some initial products to limit the size of the new sets you are creating, or by using the search save feature described in a later exercise.

2. <u>The AND Operation</u>

The AND relationship is expressed in the same way as the OR relationship, by spelling the AND or by using an asterisk symbol as shown below:

```
C1 AND 2 AND 3 AND...n
C1AND2AND3AND...n
C1 * 2 * 3 *...n
C1*2*3*...n
C1-n/AND
C1-n/*
```

The AND operator should be used with care, as it requires <u>each</u> set to be satisfied for retrieval. The number of AND operators needed seldom exceeds two, and the average is about 3 per search question.

The result of the COMBINE operation is a terminal display or printout of the new set created by the logical operation (and serially numbered by the system), along with a tally of the number of citations that are included in that new set. An example is shown below.

```
? S BOOK
          28   7408 BOOK
? S CATALOG
          29    981 CATALOG
? C28 AND 29
          30    179 28 AND 29
?
```

3. The NOT Operation

The NOT operation is useful for permitting the search to exclude search terms that are known in advance to be non-relevant to the search topic (e.g. search on faculty and unions, but not union catalog, union list of serials, or Soviet Union).

The NOT operation is expressed by the word NOT or by using the - symbol (e.g. C7NOT8, C7-8).

4. Combined Logical Operations

You can mix words and symbols in the same search formulation. Parentheses can also be used to describe logical groupings, such as:

```
C1AND2 NOT3
C(1AND2)NOT3
C(1+2)-3
C(1OR2)AND(3OR4)AND5
C(1OR2)*(3+4)AND5
```

If parentheses are not used, the DIALOG program will operate first on the NOT logic, and then on the AND and OR logic. Parentheses are useful for notation purposes to avoid ambiguity of interpretation.

The parentheses can even be nested in several levels such as

```
C(((SET1 OR SET2)AND(SET3 OR(SET4 NOT SET5))OR SET6)AND SET7)NOT SET8
```

It is exceptionally easy to make an error with such a complex nested statement.

The total number of Boolean operators acceptable in one search statement is around 25. The length of the character string in the search statement (maximum of 1 line of typing), rather than the number of operators, is the usual limiting factor. There are no limits on the degree of nesting as such. However it is seldom necessary (or advisable!) to use such logically complex search statements as shown above. An example of a long logic statement is shown below in both a long and short form.

```
  C1+2+3+4+5+6+7+8+9+10
          22 49077 1+2+3+4+5+6+7+8+9+10
? C(1+2+3+4+5+6+7+8+9+10)*(11+12+13+14+15)*(16+17+18+19+20)
          23   160 (1+2+3+4+5+6+7+8+9+10)*(11+12+
? C1-10/OR
          24 49077 1-10/OR
? C11-15/OR
          25 37665 11-15/OR
? C16-20/OR
          26 14272 16-20/OR
? C 24 AND 25 AND 26
          27   160  24 AND 25 AND 26
?
```

Note the convenience of using a range feature with the COMBINE command (e.g. C1-11/OR). Unfortunately this range feature cannot be used when combined with other logic such as C(1OR2)AND(4-7/OR).

ON-LINE EXERCISE

1. Start up the terminal with a BEGIN BYPASS to the ERIC data base. SELECT, and then COMBINE in an OR relationship, all of the following terms: ABSTRACTING, INDEXING, TRANSLATING, REVIEWING, CATALOGING, CLASSIFYING. Type an END command.

2. SELECT the term FEDERAL, and COMBINE it in an AND relationship with the set resulting from the previous COMBINE operation. END.

3. EXPAND the term ARCHIVE, and COMBINE it in an OR relationship with all of the alphabetically-related terms that represent archives of different types. END.

4. COMBINE in an OR relationship all of the terms indicated by the thesaurus as being subject-related terms that represent archives of all types. END.

5. COMBINE in an OR relationship the final sets created separately in Problems 3 and 4 (archives), and then AND this final archive set with the term COSTS. END.

6. Take the final set produced in Problem 5 above, and use the NOT command to exclude those citations that use the term BUDGET.

7. BEGIN1. Build a set, and determine the number of citations that correspond to the information request noted below:

(CATALOG or INDEX) and (EVALUATION or PERFORMANCE or COSTS)

Use these terms exactly as given above, with no additions, deletions, or EXPANDs. END.

8. Build a set that corresponds to the information request noted below:

(EDUCATION or APPLICATION or APPLIED or LIBRARIES or SYSTEM or RESEARCH or PROGRAM or SURVEYS)

Terminate the attempt if the system saturates and gives an error message about a storage overflow. END.

9. Directly key in the following instruction

CAPPLES AND ORANGES

When finished, LOGOFF.

OFF-LINE HOMEWORK EXERCISE #3 STUDENT NAME_____

1. Total amount of terminal time, and number of citations in the sets created in the above problems?

Problem#	No. of Citations or Error Messages	On-Line Time Required (hrs.)
1. (abstracting, etc.)		
2. (above AND federal)		
3. (archive-alphabetic)		
4. (archive-subject)		
5. (archive AND costs)		
6. (5 NOT budget)		
7. (new set)		
8. (saturation)		
9. (COMBINE terms)		
TOTAL	---	

2. What went wrong with problem #8?

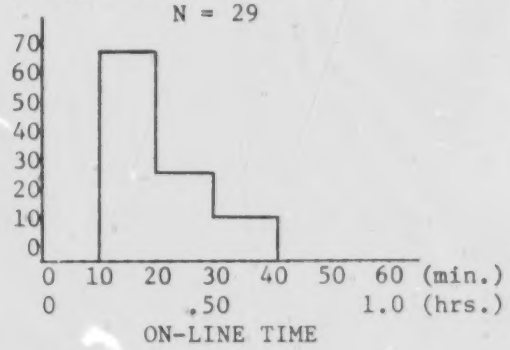
3. What's wrong with problem #9?

SUMMARY

The AND, OR and NOT operators are the necessary elements for combining the chosen search terms together in a final search formulation. You have now learned the major operations necessary to perform an on-line search. The rest of the commands provide more of a fine tuning capability to help you sharpen up or trim the search formulation, to arrange the output, and to increase your speed and flexibility.

Some general reminders: 1) you must SELECT terms before you can COMBINE them; 2) the AND operator sets a restrictive condition, so that each additional AND operator used in the search formulation tends to reduce the volume of output; the OR operator provides the reverse situation by permitting more retrieval possibilities, hence each additional OR operator used in the search formulation tends to increase the volume of output.

AVERAGE TIME = 19.7 min./.330 hrs.
N = 29



DIALOG LAB EXERCISE #4
(MULTIPLE-WORD SEARCH TERMS)

OBJECTIVE: To learn to work with multiple-word search terms

COMMANDS AND FEATURES USED FOR THE FIRST TIME: WORD PHRASES, WORD PROXIMITY AND WORD ORDER CONDITIONS, DISPLAY SET HISTORY

FILES USED: ERIC

BACKGROUND: The prior exercises have all dealt primarily with single-word search terms (e.g. cataloging, indexing). However there are many instances in which multiple-word search terms are of interest (e.g. non-print media, secondary education) either as character strings that occur naturally in the title or abstract, or as descriptors assigned by indexers. It is helpful for the searcher if the system can search with multiple-word terms, and many systems provide this capability.

A system that searches only on single-word terms can always retrieve a citation that includes multiple-word terms, by making separate searches on each of the words and then ANDing the resulting sets. However, this often causes some extra false drops to be retrieved because of instances of:

*word order reversed (duck blind, blind duck)
*terms used in different parts of the citation (SOLAR ENERGY matching an article on "Energy Needs" published by Solar Manufacturing Co.)

This is particularly true when searching abstracts where different parts of the phrase can appear in different sentences. It is helpful if the system permits you to require that the citation terms appear in the same sequence as the character string of your multiple-word search key.

Some of the data base suppliers annotate their citations with multi-word phrases. Systems that build indexes that include multi-word phrases can often end up with some phrases that are so long that it seems unlikely that any searcher would a) think of them, or b) want to key them in. The following long word phrases are such examples taken from some of the DIALOG files.

APPALACHIA PRESCHOOL EDUCATION PROGRAM

APPLETON CENTURY CROFTS PORTABLE LABORATORY SYSTEM

AREA CENTERS FOR SERVICES TO DEAF BLIND CHILDREN

ASSOCIATION OF INFORMATION DISSEMINATION CENTERS

Data base suppliers differ in their approach to multiple word index phrases. Some data bases restrict themselves to rather short index terms, while some

suppliers such as INSPEC may work with many long Identifier phrases (e.g. application as high energy voltage sensiti).

DIALOG INSTRUCTION:

1. DIALOG Indexes

When the DIALOG on-line subject indexes are built from the input records, each significant word or character string is pulled out of the record and used as an index term. The "significant" words include every character string other than 12 trivial terms (A, AN, AND, BY, FOR, FROM, IN, OF, ON, THE, TO, WITH). This causes some specific problems with a few search terms (e.g. VITAMIN A, IN VITRO). Attention is also given to removing some punctuation marks (e.g. periods at the end of a field or sentence) from the character strings. All of these access points are merged into a composite index term list regardless of which field the terms were in. Each of the terms of a word phrase (e.g. computer programs) is pulled apart and entered separately in this composite list. However, each of the terms is annotated in the composite index to show which field it came from, and this annotation is then used internally as a pointer to the separate index lists that are also created for each of the data fields. A search (SELECT) on any term automatically searches this master list (called the Basic Index) by default unless restrictions are put on the SELECT statement by the searcher that would limit attention to specific fields (e.g. title, abstract). An example of the index term lists derived from a typical ERIC citation is given in Figure 4-1.

2. Word Phrases

In some files, the assigned index terms may consist of pre-coordinated word phrases. That is, the thesaurus or controlled vocabulary for that file may include some word phrases in addition to single terms. Thus the terms of interest may be pre-coordinated by the indexer so that they needn't be post-coordinated by the searcher.

In the ERIC data base for example, whenever the DIALOG system first receives a multiple-word phrase (called a "bound Descriptor" in this exercise) in a Descriptor or Identifier field in a citation from the data base supplier, it posts that phrase to the machine files both by the entire bound Descriptor and by the separate words in the phrase. Thus the Descriptor phrase BOOK CATALOG would be filed in three places, under BOOK CATALOG, under BOOK, and under CATALOG. But this posting of the complete bound Descriptor is only done for the phrases in two of the ERIC data fields, Descriptors and Identifiers.

For any other field such as the title, word phrases that would seem to belong together (e.g. union catalogs) are pulled apart and each word, except those that are trival, is filed separately. Thus you should plan to EXPAND or SELECT word phrases only when you are working in the Descriptor or Identifier fields of some files. Word phrases are kept intact in the same way in the following fields of several other data bases:

FILE	FIELDS THAT INCLUDE BOUND DESCRIPTORS
ERIC	Descriptors, Identifiers
NTIS	Descriptors, Identifiers
COMPENDEX	Descriptors, Identifiers
INSPEC	Descriptors, Identifiers
PSYCH AB	Descriptors
CAIN	Descriptors (for some parts of the file)
DISSERTATION ABSTRACTS	Descriptors

Searching on a bound Descriptor is done the same way as searching with single words, only you key in the phrase instead of the single word. The EXPAND and SELECT commands can be used with word phrases as shown by the example below.

```
? EXPAND MINORITY GROUPS
Ref   Index-term                Type Items RT
E1    MINORITY GROUP                    1
E2    MINORITY GROUP
        ADMINISTRATORS                  1
E3    MINORITY GROUP CHILDREN         618  2
E4    MINORITY GROUP EDUCATION          5
E5    MINORITY GROUP TEACHERS
        (TEACHERS WHO ARE               119  3
E6    MINORITY GROUPS                2916 18
E7    MINORITY MOBILITY
        PROJECT                         2
E8    MINORITY PARTICIPATION
        PROGRAM                         1
E9    MINORITY RIGHTS                      1
E10   MINORITY ROLE                    75  2
E11   MINORITY STUDENTS                 2
E12   MINORITY TEACHER
        RECRUITMENT PROGRAM             1
E13   MINORITY WOMENS
        EMPLOYMENT PROGRAM              1
E14   MINORS                           80
                                       more
? SE1-E13
          3  3608 E1-E13
                  E6: MINORITY GROUPS
?
```

If you SELECT a multi-word phrase by giving the words and the space characters, the system only searches in the Descriptor and Identifier files (DE/ID). If the phrase is not a bound Descriptor (i.e. if it may appear in titles or abstracts only, or as only a part of a bound Descriptor) then you must use the proximity specification (W) feature described below.

Use of the /DE or /ID to restrict the search to the Descriptor or Identifier fields will retrieve any citation in which a descriptor or identifier contains the term(s) indicated. Thus TEACHING/DE will retrieve any citation in which a descriptor contains the word "teaching", (e.g. TEACHING, TEACHING MACHINES, STUDENT TEACHING, TEAM TEACHING, etc.). If a searcher wishes to retrieve only those citations with the single word "teaching" as the descriptor, selective retrieval may be achieved using /DF. Selecting TEACHING/DF will retrieve only those citations which have the single word descriptor "teaching". Similarly, for the identifier field, S CALIFORNIA/ID will retrieve all citations with the word "California" in an identifier (e.g. University of California, California League of Women Voters, etc.), while S CALIFORNIA/IF will retrieve only those citations with "California" as a single word identifier.

3. Word Proximity

In addition to regular text searching in which you look for terms that appear anywhere in the prescribed text field, DIALOG also has the capacity to search for terms that are located within a specified distance of each other (e.g. within 2 words of each other). This feature can be helpful to reduce some false drops that might otherwise happen. The kind of proximity specifications that are possible are shown below:

SPECIFICATION	EXAMPLE OF RETRIEVED CITATION
SWEED(W)CONTROL -- WEED adjacent to CONTROL, in this order.	"Weed Control Methods"
S WEED(nW)CONTROL -- WEED within up to n intervening WORDS of CONTROL, in this order	"Weed and Pest Control Methods"
SWEED(F)CONTROL -- WEED in the same FIELD (data type) as CONTROL, in any order and in any subfield (e.g. in different descriptors)	"Pest Control and Weed Reduction"
SWEED(C)CONTROL -- WEED in the same CITATION as CONTROL, but in any order and in any field or data type. (analogous to the AND operator)	"How to Weed Your Library Collection" by Control Data Corporation

Proximity commands should be formulated in the manner shown in the above table. This feature only has meaning for the SELECT command. If no other conditions are given, these proximity specifications will apply to all data fields (title, descriptor, corporate source, abstract, etc.). However, the specifications can be limited to one or more specific fields if desired (e.g. SWEED(W)CONTROL/TI). A few data fields, such as Chemical Abstracts key word phrases, are stored without sequence information and can only be retrieved using (F) or (C) specifications, but not using (W).

These proximity specifications cannot presently be used with any truncated words. Such use will result in a condition as noted in the example below.

? SUNION(W)CATALOGS?

? 3 0 UNION(W)CATALOGS?

?

SELECTing known word phrases (e.g. SPECIAL EDUCATION) is preferable to SELECTing and COMBINEing the separate words because it is faster. SELECTing SPECIAL(W)EDUCATION will retrieve all adjacent word pairs of this phrase, including pairs from the title, descriptor, identifier, and abstract fields, (and even from the corporate source field, if there should be a "Special Education Group"). Here the computer must perform two retrieval operations and a series of comparisons to determine which words are indeed adjacent. If you wish to avoid false drops of the kind mentioned here (i.e. "Special Education Group" in the corporate source field), it is possible to use the suffix code commands to restrict the search to just those fields desired, e.g. SPECIAL(W)EDUCATION/DE,ID,TI.

The use of the 12 trivial terms with the proximity specifications will result in "0" postings as these terms are not indexed in the file. For example, each of the following SELECT statements will result in a null set if entered as printed:

SHOOF(W)AND(W)MOUTH(W)DISEASE
SAMERICAN(W)SOCIETY(W)FOR(W)METALS
SNATIONAL(W)LIBRARY(W)OF(W)MEDICINE

Use of a different proximity specification is necessary to retrieve such phrases (e.g. SHOOF(1W)MOUTH(W)DISEASE).

In summary, there are three ways to search for term phrases, as shown below:

1	2	3
SELECT library science	SELECT library(w)science	SELECT library SELECT science COMBINE
(works only on controlled vocabulary in Descriptor or Identifier fields. Use this if you want to restrict the search to these fields.)	(Works on all fields. Use this whenever in doubt.)	(More cumbersome and time-consuming, and may generate many false drops.)

4. Display Set History

In a long search process, it is sometimes possible to lose track of what sets have been established, particularly if there are intervening EXPAND or citation listings on the printout, or if you are working with several data bases, or if you are using a CRT display. One way to refresh your memory is to give a DISPLAY SET HISTORY command (type DISPLAY SETS or DS or @). This will cause an immediate printout or display of all sets created since your last BEGIN command, regardless of which file is being used. (An END command does not erase the sets; they continue to be stored and can be used in the next logical search of the same data base.)

You may display a portion of the set history (e.g. DS21-25 to see sets 21 through 25).

ON-LINE EXERCISES

(Be sure to read the exercises in advance of starting the session, in order to see what reference work should be done before coming to the terminal.)

1. Start up the terminal in the ERIC file with a !B command. Search (both with and without the (W) feature) for the set of citations that are retrieved by each of the following term phrases:

search strategies

operations research

queuing theory

resource allocations

COMBINE in a logical OR relationship the 4 sets that correspond to the term phrases in which the (W) feature was used. END.

2. AND the resulting set above with the ERIC Clearinghouse code for the Clearinghouse on Information Resources. (Check the reference tools, such as the beginning pages of a recent printed issue of RIE or CIJE, before you go on-line, in order to determine what code to use.) Give a DISPLAY SETS command; then END.

3. Find INFORMATION RETRIEVAL as part of either a bound Descriptor or an Identifier. SELECT INFORMATION(W) RETRIEVAL. Then do a search on INFORMATION AND RETRIEVAL. Find the set of citations that are found by INFORMATION AND RETRIEVAL but NOT by INFORMATION (W)RETRIEVAL. END.

4. Search for the set of citations that use the ERIC Descriptor INFORMATION RETRIEVAL. Search for the set of citations that use the phrase INFORMATION RETRIEVAL in the title. Find the set of overlapping citations (i.e. citations that use this phrase as a Descriptor and in the title). Find the sets of non-overlapping citations (i.e. the set that uses this phrase in the title but not as a Descriptor; the set that uses this phrase as a Descriptor, but not in the title). Find the set that uses this phrase either as a Descriptor or in the title or in the abstract. Find the set that uses this phrase in the abstract. END.

5. SELECT the terms BOOK and CATALOG under the following conditions:

--SELECT separately, then COMBINE in an AND relationship

--with up to 1 intervening word; i.e. (1W)

--with up to 3 intervening words; i.e. (3W)

--in the same field

--in the same citation.

6. Locate any publications that mention the meals-on-wheels program of providing food for the elderly poor. Type the first citation in format 2 whenever found. LOGOFF.

OFF-LINE QUESTIONS EXERCISE #4 STUDENT NAME_____

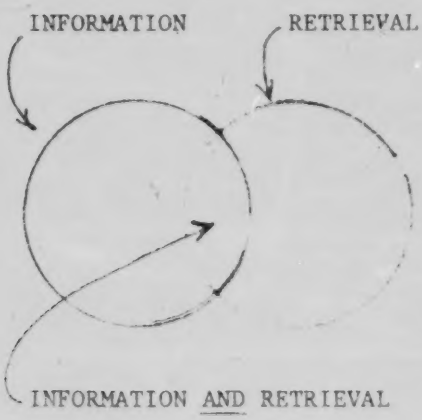
1. Fill in the data in the table below:

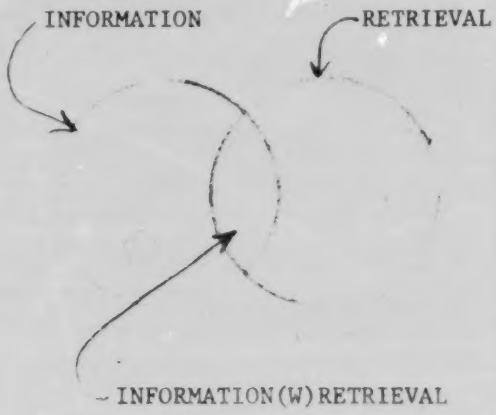
Problem	Citation Count in Final Set	On-Line Time (hrs.)
1 (word phrases)		
2 (CH, DS)		
3 (set intersections)	---	
4 (set intersections)	---	
5 (proximity)	---	
6 (meals on wheels)	---	_____
TOTAL	---	

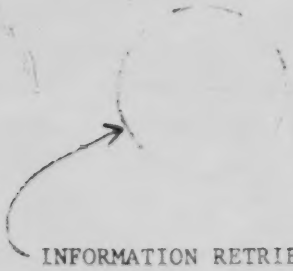
2. Number of citations found in searching problem #1:

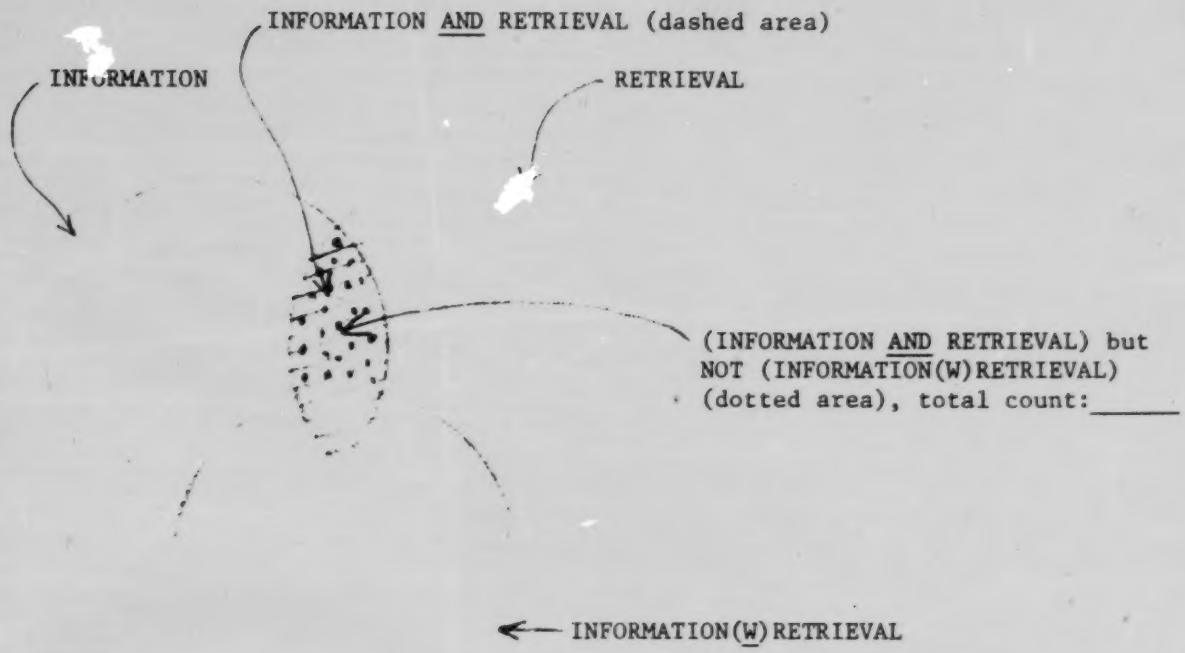
	as phrase	with (w) feature
search strategies		
operations research		
queuing theory		
resource allocations		

3. In the following Venn diagrams, fill in the citation counts for problem #3.

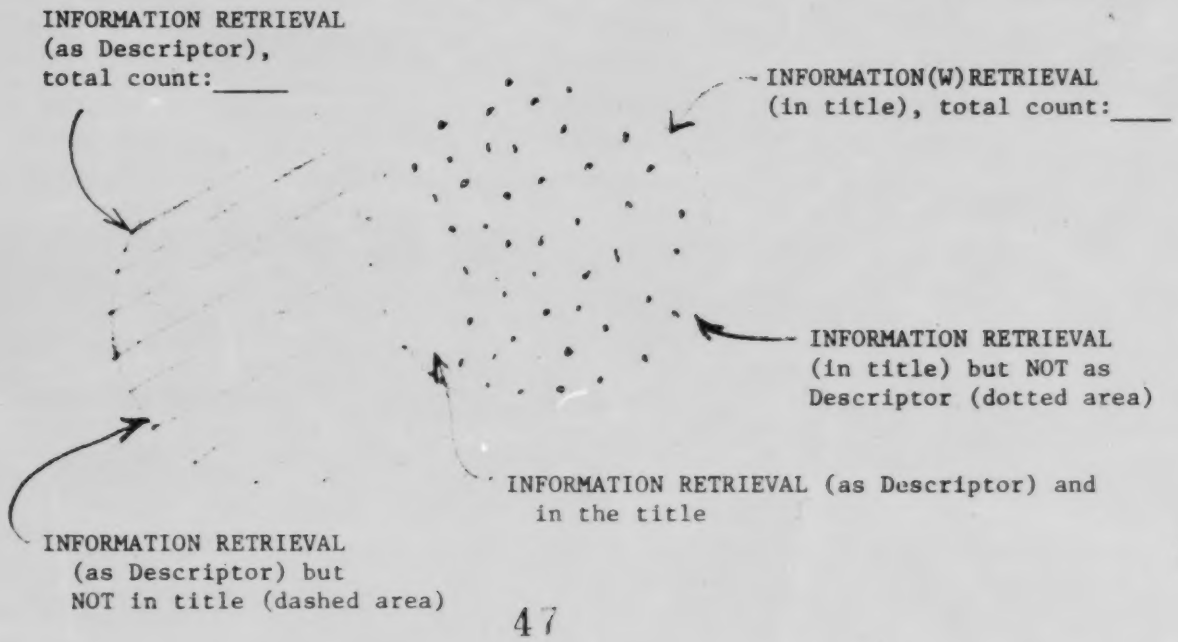


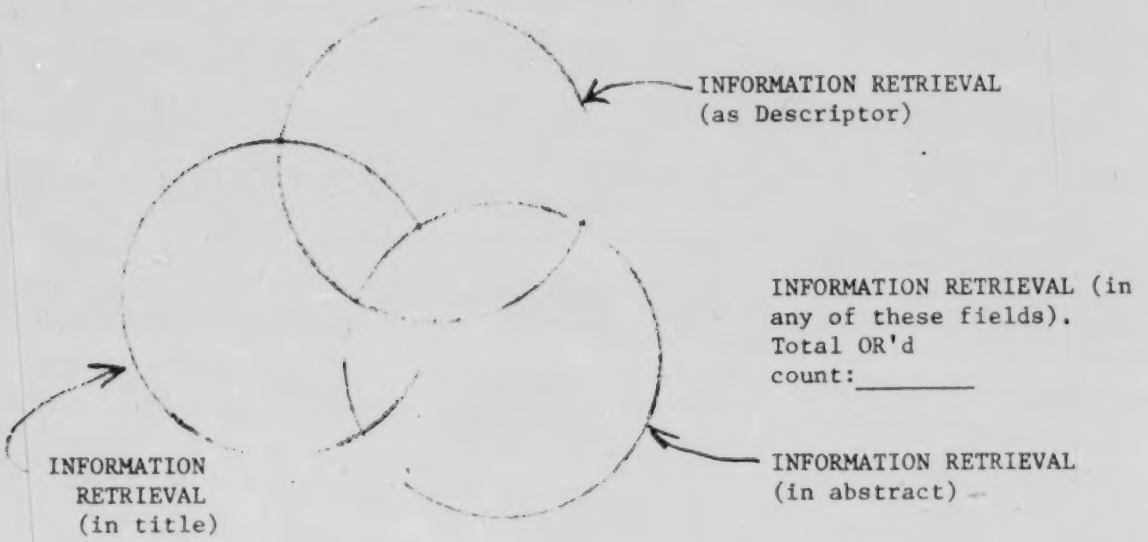




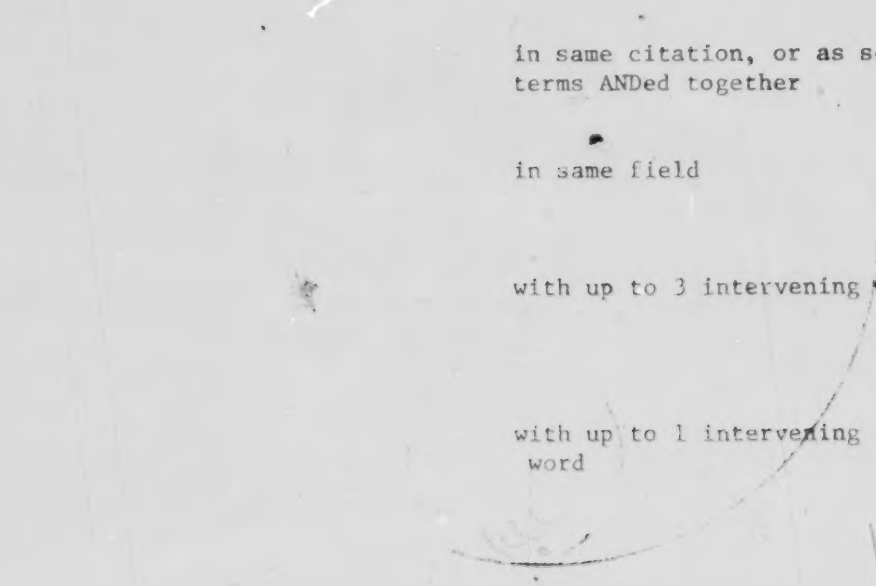


4. In the following Venn diagrams, fill in the citation counts for problem #4.


INFORMATION RETRIEVAL (as Descriptor), total count:_____
INFORMATION(W)RETRIEVAL (in title), total count:____
INFORMATION RETRIEVAL (in title) but NOT as Descriptor (dotted area)
INFORMATION RETRIEVAL (as Descriptor) and in the title
INFORMATION RETRIEVAL (as Descriptor) but NOT in title (dashed area)


INFORMATION RETRIEVAL
(as Descriptor)
INFORMATION RETRIEVAL (in any of these fields). Total OR'd count:_____
INFORMATION RETRIEVAL (in abstract)
INFORMATION RETRIEVAL (in title)

5. In the following Venn diagram, fill in the citation counts for problem #5 (BOOK CATALOG).


in same citation, or as separate terms ANDed together
in same field
with up to 3 intervening words
with up to 1 intervening word

6. Citation number for publication about meals-on-wheels:

SUMMARY

When in doubt, or when all else fails, you can always search term phrases by a divide and conquer approach (i.e. SELECT each term separately and then AND them). However this is the least effective way to do it. The next best approach would be to SELECT each of the terms with an adjacency condition for each term (e.g. SA(W)B); this at least saves you the trouble of keying in the COMBINE commands. The best approach is to first of all remember which of the data bases keep the term phrases intact, and in which data fields (generally only in the controlled vocabulary fields), and then, if the search is to be restricted to these fields, try to SELECT this term phrase directly; this may require a look at the thesaurus entries (off-line, or with an EXPAND), but it is usually the fastest approach and yields fewer false drops.

As noted earlier, enlarging a given search to include more data fields generally increases the volume of search output. Loosening the adjacency requirement (e.g. term A within 5 terms of term B, instead of within 1 term) generally increases the volume of search output.

ED110003. AN INTRODUCTION TO DECISION LOGIC TABLES. (Report)
HEDAYAT, MOHAMED M.
UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES. SCHOOL OF LIBRARY SCIENCE. (BBB05044).
Pub date: 74; 25p.; EDRS PRICE MF-$0.76 HC-$1.58 PLUS POSTAGE.
Clearinghouse no: IR002271.
Descriptors: *BRANCHING; COMPUTER PROGRAMS; *DECISION MAKING; EXPECTANCY TABLES; *LIBRARY ACQUISITION; LIBRARY SCIENCE; LOGIC; *LOGICAL THINKING; PROGRAMING.
Identifiers: *DECISION TABLES.
THE USE OF DECISION TABLES--WHICH ARE A MEANS OF LINKING DECISION RULES FOR ACTIONS TO SPECIFIC SETS OF PRIOR CONDITIONS--IN INFORMATION SYSTEMS DESIGN AND DEVELOPMENT IS DESCRIBED. PROCEDURES FOR PREPARING DECISION TABLES ARE PRESENTED TOGETHER WITH EXAMPLES OF THEIR APPLICATION IN THE CONTEXT OF LIBRARY ACQUISITIONS. A BIBLIOGRAPHY IS ALSO PROVIDED. (DGC).

INDEX TERMS (COMPOSITE LIST)

acquisition (DE)
acquisitions (AB)
actions (AB)
also (AB)
angeles (CS)
application (AB)
are (AB)
bibliography (AB)
branching (DE)
california (CS)
computer (DE)
computer programs (DE)
conditions (AB)
context (AB)
decision (TI,DE,ID,AB)
decision making (DE)
decision tables (ID)
described (AB)
design (AB)
development (AB)
examples (AB)
expectancy (DE)
expectancy tables (DE)
information (AB)
introduction (TI)
library (CS,DE,AB)
library acquisition (DE)
library science (DE)
linking (AB)
logic (TI,DE)
logical (DE)
logical thinking (DE)
los (CS)
making (DE)
means (AB)
preparing (AB)
presented (AB)
prior (AB)
procedures (AB)
programing (DE)
programs (DE)
provided (AB)
report (TI)
rules (AB)
school (CS)
science (CS,DE)
sets (AB)
southern (CS)
specific (AB)
systems (AB)
tables (TI,DE,ID,AB)
their (AB)
thinking (DE)
together (AB)
university (CS)
use (AB)
which (AB)

INDEX TERMS (TITLE)

decision
introduction
logic
report
tables

INDEX TERMS (PUBLISHER)

angeles
california
library
los
school
science
southern
university

INDEX TERMS (DESCRIPTORS)

acquisition
branching
computer
computer programs
decision making
expectancy tables
library acquisition
library science
logic
logical thinking
making
programing
programs
science
tables
thinking

INDEX TERMS (IDENTIFIERS)

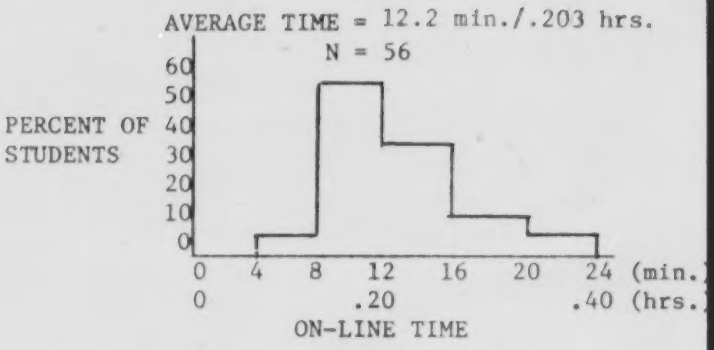
decision tables

INDEX TERMS (ABSTRACT)

acquisitions
actions
also
application
are
bibliography
conditions
context
decision
described
design
development
examples
information
library
linking
means
preparing
presented
prior
procedures
provided
rules
sets
specific
systems
tables
their
together
use
which

Figure 4-1. Example of Index Term Lists Derived from typical ERIC Citations.

DIALOG LAB EXERCISE #5
(OUTPUT/EXPLAIN)



OBJECTIVE: To learn to use the output commands and the tutorial features

COMMANDS AND FEATURES USED FOR THE FIRST TIME: TYPE, DISPLAY, PRINT, PRINT-, EXPLAIN, NEWS, SCHEDULE, FILES, RATES, FIELDS

FILES USED: ERIC

BACKGROUND: Citations retrieved by an on-line search can usually be displayed or printed at the terminal at the operator's request. They can also be printed off-line at the computer center in order to be mailed (the same day or next day) to the searcher. The on-line display is useful for two major reasons: 1) to permit immediate delivery of retrieved citations; 2) permit a review of the search results by the operator in order to modify the search as it is being conducted.

Most systems provide some output options such as the output format, amount of information to be printed with each citation, and an output sequence. For a given system, these options may be somewhat different for each of the data bases, because of the different data elements associated with each data base. Off-line prints have a slower delivery time for the user, and usually have a per citation or per page charge associated with them. The extra charges for off-line printouts are usually intended to recover the extra costs to the search service (e.g. printing, packaging, mailing) and sometimes a royalty charge levied by the data base supplier. However, the true per citation costs associated with on-line terminal printing are often higher than the off-line print costs, and the terminal paper (especially treated papers or heat-sensitive papers) may be less convenient for the user. Thus there is usually a tradeoff decision between immediate on-line printout and less expensive off-line printout of the final citations for the users. Many searchers use a rule of thumb of printing all citations on-line if the total number is 10-25 or less.

For some purposes, a brief citation (e.g. author-title information only) is an entirely satisfactory output for the user. In other instances, a user may want to receive the full citation plus abstract and any added index terms. The searcher may want to look at the intermediate results of a search in order to see if the right kinds of citations are being retrieved, and to see what other index terms have been used with the citations, in order that other useful terms might be incorporated into the search statement.

Calling for a display or output of citations generally does not terminate the search, or prohibit further modification and use of the query formulation.

DIALOG INSTRUCTION:

1. Output Formats

Examples of the various output formats available for each data base are given in the DIALOG instruction manual. A summary of the general format features of they are used with all of the data bases is given in the table below, in order of generally increasing volume of output information.

FORMAT	DATA ELEMENTS USED
1	number only
6	number + title
2	citation + index terms
4	abstract only (for some data bases, format 4 gives a short citation, e.g. SSCI, SCI.
5	citation + index terms + abstract
3	unformatted string

Format 1 (number only) is helpful in only a few data bases (ERIC, BIOSIS, CA, PSYCH AB) where this number happens to correspond to the record number in the equivalent printed indexes (e.g. EJ- and ED- numbers for ERIC citations, CA abstract numbers for CA citations). Thus this output can be used in conjunction with the printed issues or fiche files if desired. This is sometimes done to minimize on-line costs. Sometimes it is helpful to print the first (and major) fraction of output in a full format, and print the balance of the set in numbers only, to permit some manual followups if more citations are desired after reviewing the first fraction.

Format 6 is helpful if you're looking for a specific title. It can also be used as a quick check of whether relevant output is being retrieved. Manual followups from the printed accession numbers cannot be made from the numbers given from the CAIN, SSCI, and ABI files.

Format 2 is helpful as an intermediate typed output because it provides a list of all of the Descriptors or subject headings assigned to a citation, and can suggest modifications to the search formulation.

Format 4 (abstract only) is a special case, useful primarily in those instances in which you've already printed the title or citation, and now decide that you want an abstract, but without repeating the typing of the citation. On SSCI and SCI data bases, Format 4 provides the full citation excluding the author's affiliation, thus saving 1-2 lines of print-out.

Format 5 is the most useful output format for most users, providing the maximum possible amount of output information.

Format 3 is useless for searchers because it represents the original packed machine record.

2. On-Line Output Commands

There are twin commands that cause a retrieved citation to be brought back to the terminal.

Terminals that are CRT terminals may use a DISPLAY command (type DISPLAY or D or %) or a TYPE command, followed by a character string that identifies the set number from which the citations are to be printed, the format of the output, and the system-assigned serial numbers of the citations to be printed.

Terminals that are printing terminals use a TYPE command (TYPE or T or ') followed by a character string that identifies the set number from which the citations are to be printed, the format of the output, and the system-assigned serial numbers of the citations to be printed.

? TYPE6/2/1-2

↑ Set # ↑ Format indication ← citations 1-2

The output system works with several default conditions, and will normally satisfy that default condition unless other conditions are specified by the operator. The default conditions have been chosen by the designers to handle the most frequent situations in order to save time and effort for the searcher. The default conditions that apply here are:

1. A TYPE command given with a set number and no other information, will automatically print the first citation in that set, in format 2. (The system automatically assigns temporary serial numbers to each citation in any set you create.) Successive items can be printed by simply giving another T command. If only the set and format are given, it will automatically default into typing only the first citation of the set (e.g. TYPE6/5, will type only the first citation of set six in format 5). This applies for all formats except format 1; here the defult is the first 84 accession numbers.

2. Citations are included in each set in the sequence in which they have been supplied by the data base supplier. Thus the first citations in any set will usually be the most recently acquired citations. Furthermore, in any given set of the ERIC data base, the EJ- citations will be listed before the ED- citations. Similarly, in any given set of the BIOSIS data base, within a calendar year, citations from Biological Abstracts are displayed before those from Bioresearch Index.

Examples of the various ways in which the TYPE command can be stated are given below:

COMMAND	INTERPRETATION
TYPE 4	defaults to format 2, and prints lst citation in set 4
T4	same
TYPE 4/5	format 5, print lst citation in set 4
TYPE 4/5/1-3	format 5, print lst three citations in set 4
T4/6/1-10	format 6, print lst 10 citations in set 4

An example of a terminal printout is given below:

? (TYPE8) — operator keys this in to request an on-line printout of the first citation in set #8

1

EJ135417 UD564257

The City as a Center of Learning

Krumbein, Eliezer Journal of Negro Education; 44: 3: 391-403 Sum 75

Descriptors: *Urban Schools/ *Learning Activities/ *Learning Laboratories/ *Models/ *Urban Education/ Urban Teaching/ Urban Areas/ Urban Environment/ Urban Youth

3. Off-Line Output Commands

Off-line printouts are obtained for any terminal by giving a PRINT command (type PRINT or PR or &) along with the set number, format, and citation number information as used in the TYPE or DISPLAY command. If a range of numbers is not given, only 50 citations will be printed with a single command (a safety feature built in to prevent operator mistakes from printing thousands of citations). If more than 50 citations are to be printed off-line, they must be specifically requested by a command (e.g. PRINT5/5/1-163).

If a PRINT command is sent, and then realized to be in error, it can be cancelled by typing a PRINT- command (type PRINT-). The PRINT cancel command can be given at any time during the terminal session, as long as it is given before the END command. The END command (and the implicit END function in the BEGIN and LOGOFF commands) actually stores the PRINT requests for processing in the evening when the on-line service is shut down. Each PRINT- command cancels the most recent PRINT command; to erase the last two PRINT commands, you must enter PRINT- twice; to erase the one before the last PRINT command, you must enter PRINT- twice, and then retype the correct command.

4. Output Sort Sequence

For some files, (e.g. Psych Abstracts, Foundation Grants), a sort feature is available to be used to sort the output citations of a set into a desired sequence before printing (usually off-line with the PRINT command). The sets can be put into sequence according to the data in any of the fields of a data base defined by a prefix code (e.g. AU, TI), and into either ascending or descending sequence (use A for ascending, D for descending). The format of the instruction consists of the PRINT command and set number, followed by range of citation numbers from that set that are to be sorted; this information is immediately followed by one or more sets of search keys, each of which show the data field that is to be used as the basis for sorting, and whether the sort is to be done in ascending or descending sequence. The first sort key is the major sort key, and subsequent sorting is to be done within the structure of the main sort sequence. For example, sort all citations by author, and within author (for the same author) sort by title. An example of this command is given below.

COMMAND	INTERPRETATION
PRINT 5/5/1-500/AU,A/TI,A	Sort and print the first 500 citations of set 5 in format 5 into ascending (A-Z) order by author, and within author by titles in ascending order

5. Tutorial Commands

If any questions are raised about the system during the search, it is possible to obtain some immediate tutorial information by means of the ?EXPLAIN command (type ?EXPLAIN). Questions about specific DIALOG commands can be asked as shown below by giving the EXPLAIN command followed by the command of interest:

```
? ?TYPE
THE TYPE COMMAND IS ENTERED IN THE SAME
MANNER AS DISPLAY, AND IS NORMALLY USED
TO PRINT ACCESSION NUMBERS OF SEARCH
RESULTS AT THE CONSOLE.  IF TYPE IS DONE
WITH A FORMAT OTHER THAN 1, ONLY THE
FIRST ITEM OF THE SPECIFIED SET IS TYPED
OUT.  SUCCESSIVE ITEMS IN THE SET MAY BE
TYPED MERELY BY ENTERING THE TYPE COM-
MAND.
?
```

Questions about recent changes to the system or files can be posed with the NEWS command (type ?NEWS). This command causes a stored news message to be sent to the terminal. This news bulletin is usually changed weekly and is usually more extensive than the news given in response to a BEGIN command. The current system operating schedule can also be retrieved by giving a ?SCHEDULE command.

```
? ?NEWS
*DIALOG NOW HAS A PROCESSING CUE THAT
TELLS YOU DIALOG IS WORKING!  DURING THE
EXECUTION OF A LENGTHY COMMAND, DIALOG
SENDS OUT A CUE EVERY 15-20 SECONDS
WHICH SAYS "IT'S WORKING."  THE CUE MAY
CAUSE YOUR TERMINAL TO CLICK OR THE
SPACE INDICATOR TO FLICKER BRIEFLY, BUT
THIS DOES NOT AFFECT YOUR COMMAND OR
THE SPEED OF YOUR RESPONSE.
* THE FOLLOWING FILES WERE UPDATED 8/15:
CEC(4)  CMA/EMA(16)  PTS(18)  CASIA(30)
CHEMNAME(31)
* DIALOG WILL NOW BE AVAILABLE EVERY
FRIDAY AFTERNOON UNTIL 5 PM PACIFIC TIME
* SOCIOLOGICAL ABSTRACTS NOW ONLINE AS
FILE 37.  FOR MORE INFORMATION, ENTER
  ?FILE37, ?FIELDS37, AND ?LIMIT37.
CURRENTLY COVERS 1963-1974 (MORE LATER)
* ENVIROLINE NOW ONLINE AS FILE 40.  FOR
MORE INFORMATION, ENTER ?FILE40, ETC.
EACH ORGANIZATION USING ENVIROLINE WILL
RECEIVE UP TO 1 HR CREDIT DURING JULY;
IF THE FILE IS NOT USED UNTIL AUGUST,
THE 1 HR CREDIT WILL APPLY IN AUGUST.
?

? ?SCHEDULE
  THE DIALOG SCHEDULE IS:
DAY      PDT          EDT          GMT
MON      5AM-5PM      8AM-8PM      12N-12M
TUE   1230AM-5PM   330AM-8PM   730AM-12M
WED   1230AM-5PM   330AM-8PM   730AM-12M
THU   1230AM-5PM   330AM-8PM   730AM-12M
FRI   1230AM-5PM   330AM-8PM   730AM-12M
SAT      6AM-12M      9AM-3PM      1PM-7PM
HOLIDAY SCHEDULES WILL BE ANNOUNCED IN
ADVANCE IN ?NEWS.
```

Information about what files are currently available can be retrieved by a ?FILES command; this displays about the same information as that given in response to a BEGIN command.

The command ?RATES1 retrieves the present charging rates for the first 19 files.

```
?  ?RATES1
     FILE        RATE/HR  PRNTS!PMT5+PMT2
1-ERIC             $ 25          $.10 $.05
3-CHEM ABS COND    $ 45          $.08 $.08
4-EXCPT CHILD ED   $ 25          $.10 $.05
5-BIOSIS PREV      $ 65          $.10 $.10
6-NTIS             $ 35          $.10 $.05
7-SOC SCISEARCH    $ 70          $.10 $.05
8-COMPENDEX        $ 65          $.10 $.05
9-AIM/ARM          $ 25          $.10 $.05
10-NAL/CAIN        $ 25          $.05 $.05
11-PSYCHOL ABST    $ 50          $.10 $.05
12-13-INSPEC       $ 45          $.10 $.05
14-ISMEC           $ 65          $.12 $.12
15-ABI/INFORM      $ 60          $.10 $.05
16-21-PREDICASTS   $ 90          $.20 $.10
22-EIS             $ 90          $.50   -
23-CLAIMS/CHEM     $150          $.10 $.10
24-CLAIMS/GEM      $ 90          $.10 $.10
26-FDN DIRECTORY   $ 60          $ .30 $.30
27-FDN GRANTS      $ 60          $.30 $.30
FOR REMAINDER OF COSTS, ENTER ?RATES2
?
```

The command ?FILEn retrieves a brief description about any file of interest (e.g. ?FILE22). The command ?FIELDSn retrieves information about the data fields of any file of interest (e.g. ?FIELDS10). The command ?LIMIT will provide information about the LIMIT command, and ?LIMITn (e.g. ?LIMIT11) will provide data-base specific information.

```
?  ?FIELDS1
AREA CODE (LEGISLATIVE, AC-3?
AUTHOR                  AU-MOYE, WILLIAM
CONTRACT OR GRANT #     CR-AIR 81025?
CLEARINGHOUSE CODE      CC-EC?
DOCUMENT TYPE           DT-B
INSTITUTION CODE        IC-AHP00203
SPONSORING AGENCY CODE  SC-FER74233
ISSUE                   IS-NIE80075
JOURNAL NAME            JN-AAHP BULLETIN
PROJECT NUMBER          PN-H-[illegible]416
REPORT NUMBER           RN-B-[illegible]
UPDATE                  UD-[illegible]
YEAR                    YR-[illegible]
** SEE ?FIELDS1A FOR FILE [illegible] FIELDS **
?
```

```
? ?LIMIT
THE LIMIT COMMAND ALLOWS THE USER TO
LIMIT A SET ACCORDING TO ANY OF SEVERAL
ATTRIBUTES AS FOLLOWS: ACCESSION NUMBER
RANGE, DOCUMENT TYPE, MAJOR/MINOR POSTI-
NG, AND DOCUMMENT AVAILABILITY. CONSULT
 USER MANUAL FOR SPECIFIC FORMAT OF COM-
MAND.
?
```

ON-LINE EXERCISES

1. Start up the terminal with BEGIN1. Make the following information requests:

SCHEDULE information	information about file 10
NEWS	information about data fields in file 1
RATES1	information about the LIMIT command as used in file 1
UPDATE 6	
explain the EXPLAIN command	information about the LIMIT command as used in file 5

END.

2. Do a search on the term DIALOG. Print the resulting citations from this set on-line in the following manner:

citations in this set	in print format
1st	1
2nd	2
3rd	3
4th	4
5th	5
6th	6

END.

3. Do a search on the single terms DIALOG and ERIC, with these two terms ANDed together. Send a PRINT command to print the first citation of the resulting set off-line in format 5. Then cancel this PRINT command. LOGOFF.

OFF-LINE HOMEWORK EXERCISE #5 STUDENT NAME_____

1. Total terminal time required

Problem	On-line Time (hrs.)
1 (Explain)	
2 (formats)	
3 (print cancel)	
TOTAL	

2. Total number of citations indexed by DIALOG?

3. Fill in the following matrix to show what data elements were used with each output format on Problem #2.

	EJ- CITATIONS FORMAT						ED- CITATIONS FORMAT					
DATA ELEMENT	1	2	3	4	5	6	1	2	3	4	5	6
ED or EJ No.												
author												
title												
journal citation												
Descriptors												
Identifiers												
abstract												

4. Number of citations indexed jointly by DIALOG and ERIC?

5. Write the command string that would be keyboarded to cause the off-line printing of 135 ERIC citations from set 15 in format 5.

6. For the ERIC data base, the DIALOG connect charge is the rate shown in your ?RATES search, and the telephone line charges are an additional $7/hr. The printing terminals that operate at 30 characters per second, will print the ERIC records on-line in format 5 at an average rate of about 80 citations per hour. The off-line print charge for ERIC citations in format 5 is the rate given in response to your ?RATES search.

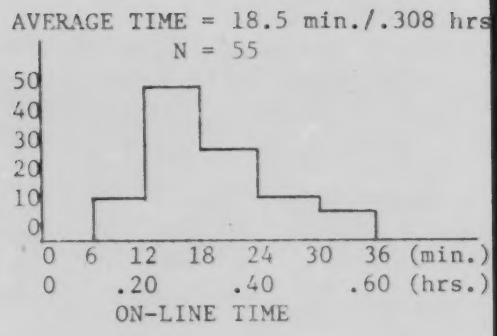
What is the estimated extra cost per citation to print on-line instead of off-line? Show your work.

SUMMARY

It is always best to be prepared before going on-line, but in the event that you find yourself in the middle of a search and you need some reminders or specific information about the system or the data bases, the EXPLAIN commands permit you to immediately obtain this information on-line. This same feature also enables you to obtain the most up-to date information about topics that might be time-sensitive (e.g. schedules, file presently available).

The output commands provide several options regarding the amount of information to be provided by the system. These commands and formats are very data base specific because of the differences in data elements used with each data base, hence you need to become especially familiar with these features for the data bases that are of particular interest to you. Remember that the more complete printouts generally cost you more than the abbreviated printouts, regardless of whether you get them on-line or off-line. So don't request citations that are more complete than you need for the application in hand.

DIALOG LAB EXERCISE #6
(SEARCH SAVE)



OBJECTIVE: To learn to use the SEARCH SAVE feature.

COMMANDS USED FOR THE FIRST TIME: All the commands related to the SEARCH SAVE feature (END/SAVE, .RECALL, .EXECUTE, .EXECUTEn, .RELEASE)

FILES USED: ERIC

BACKGROUND: In any search service environment there will be instances in which a given search formulation will need to be run more than once. The original requestor may want the search repeated at a later date, or perhaps a particular aspect of a search, once developed, will have reason to be used again at some time in the future. Examples of such situations are ERIC searches that are directed at specific student ages or school grade levels, BIOSIS searches that are directed at specific groups of plants or animals, CA searches that are directed at certain classes of chemical compounds, and CAIN searches with repeated emphasis on specific crops or pests. This same situation occurs when an on-line system is used periodically with update files and the same search formulation in order to achieve the equivalence of an SDI profile.

For the above situations it is very convenient if a searcher does not have to: (a) repeat the intellectual effort of building up the term list that represents a given concept (e.g. the 10 or more search terms that build up a word picture of elementary education); or b) repeat the keyboarding and other data entry work to get the term list into a machine language form. The first concern could be handled by keeping a loose-leaf binder or other manual record for reference purposes (and maybe even by distributing collections of such formulations for other searchers to use). Both concerns can be handled by providing a means to store such formulations in the computer when first generated, and keeping them there for later reference and use when needed. This approach is used in several systems; for example in DIALOG it is the SEARCH SAVE feature, in MEDLINE it is the STORESEARCH feature and in all SDI systems this function is central.

An important use of a stored search formulation is for those instances in which the same search formulation is to be used against several data bases, and where the on-line system maintains separate (not merged) files for each data base. After being used with one data base, the formulation can be stored and then immediately called back again as soon as the new file has been called up. There are format and other problems associated with the use of multiple data bases, and this should be considered when making a stored search for use with multiple files. This is discussed further in Exercise 8.

Several other situations occur in which it is also convenient to store away a search formulation. In an instance in which a lot of time has been spent on-line in the formulation of a search, and the searcher finds that the system is scheduled to go down in the next few minutes before the search can be completed, the searcher would like to be able to store all of the work from that session and be able to call it up and continue with it at the next on-line session. Similarly, if a searcher has developed a long and complex formulation, but is not sure about the final steps, and would like an opportunity to think about it off-line, it is helpful to be able to store all of that work, while the searcher reviews the terminal printout off-line and thinks through the next sequence of steps. In both of these situations, something like the DIALOG SEARCH SAVE feature provides a convenient way to get some temporary storage and save a re-work or re-keying effort. However, in order for this feature to be used effectively in DIALOG, the search formulations must incorporate a final COMBINE statement, and perhaps several intermediate COMBINE statements at appropriate points in the formulation (because as described later, the .EXECUTE command only returns a single set).

Another reason for a SEARCH SAVE feature, but one that is specific to the DIALOG system, is to make better use of temporary storage space assigned by DIALOG to each searcher for storage of all of the defined sets. Some search formulations will require more temporary work space than is available (e.g. when ORing several large sets). The SEARCH SAVE feature returns only the final set of the formulation, but not the intermediate sets; thus it is helpful in those instances in which you must circumvent the possibilities of disk overflow problems.

In order to protect the privacy rights of the searcher, the stored search in many systems can be recalled for viewing or use only from the terminal from which it was originally entered, or by use of the same password that was used when the formulation was first saved. Some systems levy a separate charge on any computer-stored searches in order to compensate for their continuing storage cost.

DIALOG INSTRUCTION:

1. Save the Search Formulation

The summary characteristics of the SEARCH SAVE feature are that when an END/SAVE command is given (type END/SAVE or =/SAVE), the system stores for future use the entire list of commands given since the last BEGIN command. The system assigns a serial identification number to this formulation which is sent back to the terminal at this time for use in recalling the same search sequence at a later date. You must make a permanent note of this serial number when it is first received because it will not appear on any subsequent off-line printouts or any other terminal displays.

An example of the creation of a stored search is given below, and in the appended pages of examples:

```
? (BEGIN10)--- start building a search save with a new BEGIN

        11nov76 10:22:28 User477
$0.85    0.034 Hours in File10
$0.34   Tymnet
$1.19   Estimated Total Cost
        File10:AGRICOLA SEP 76
        Set Items Description (1=OR;*=AND;-=NOT)

? S (SEARCH SAVE---CHICANOS)--- make a label with SELECT

      1       0 SEARCH SAVE---CHICANOS
? SMEXICAN(W)AMERICAN;SMEXICAN(W)AMERICANS

      2      46 MEXICAN(W)AMERICAN ? transaction not possible with
      3      55 MEXICAN(W)AMERICANS ?  adjacency feature
? SSPANISH(W)SPEAKING;SSPANISH(W)SURNAME;SSPANISH(W)SURNAMES

      4      25 SPANISH(W)SPEAKING
      5       1 SPANISH(W)SURNAME
      6       0 SPANISH(W)SURNAMES
? SCHICAN?;SRAZA?;SBARRIO?;SBRACERO?

      7      12 CHICAN?
      8     137 RAZA?
      9       9 BARRIO?
     10       3 BRACERO?
? (C2-10/OR)  finish with a COMBINE

     11      153 C2-10/OR
? (END/SAVE)  the command saves the search

Serial#AU9)--- this is the assigned number Save it!
```

Note that here the adjacency (word proximity) feature has been used for selecting terms. This ensures that descriptor phrases from one data base will be found even if another data base has these phrases only in titles or other full-text-indexed fields.

If a saved sequence is planned for one data base only, use of bound descriptors (e.g. SELECT SECONDARY EDUCATION) is much more economical in processing time (unless you also want to search the title and abstract fields).

2. Execute the Saved Search Formulation

A searcher may later execute the saved search formulation by using the .EXECUTEn command (where n is the 3-character serial number). The intermediate steps will be printed out as shown below, to verify that the search is being executed and also to allow determination of cause if the search result is not as expected.

? .EXECUTE AU9 — operator calls up previously saved search

```
    0 SEARCH SAVE-- CHICANOS
   46 MEXICAN(W)AMERICAN
   55 MEXICAN(W)AMERICANS
   25 SPANISH(W)SPEAKING
    1 SPANISH(W)SURNAME
    0 SPANISH(W)SURNAMES
   12 CHICAN?
  137 RAZA?
    9 BARRIO?
    3 BRACERO?
  253 2-10/OR
(13) 253 SERIAL# AU9
```

search saved is executed

only this set is given for the entire search save

The .EXECUTEn command by itself, as shown above, executes all steps of the saved search but will only return the results of the last set in the saved search. Consequently, the last set of your saved search should include a COMBINE command that pulls together the results of all of the actions called for in the stored search.

Note that the saved search includes everything from Set 1 to the set before the END/SAVE command. It is not possible to save only a portion of the sets you have created. Thus while it is true that you could save a search sequence as the thought occurred to you during any search, it would usually be a neater and more tailored effort if you planned it ahead of time so that the sets would include only the terms and commands that you really wanted to save. (Any extra EXPAND, TYPE, DISPLAY, EXPLAIN, PRINT, trial combinations or other commands not essential to the saved search would have an associated monthly storage cost and would clutter and slow down the subsequent playback whenever the search formulation was recalled).

The saved search can be modified only by redoing the search sequence (i.e., keying in the individual SELECT and COMBINE commands all over again). For this reason it is usually more convenient for the searcher if the saved searches are restricted to modular building blocks that can be combined together as needed, instead of representing multiple concepts. It is simple enough to AND the results of several saved searches in order to create a multiple-concept search formulation.

3. Recall the Search Formulation

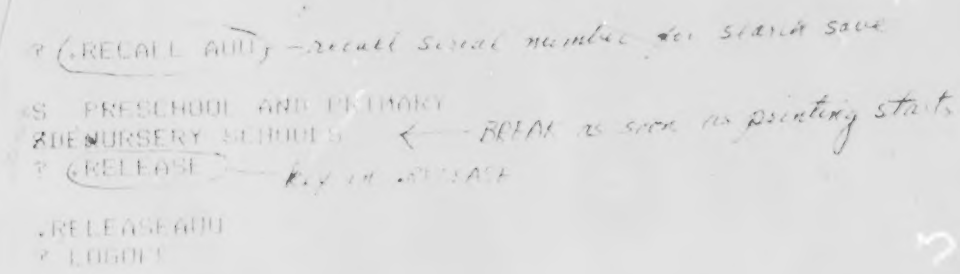
At any later date, the search formulation can be recalled with the .RECALL command (type .RECALLn, where n is the 3-character serial number). This command recalls the search formulation from storage, makes it available for use, and starts listing it at the terminal. (The listing can be interrupted with a BREAK if desired to save time. The search formulation can be used without being fully printed.)

An example of a recalled search is given in the appended pages of samples. Notice that the recalled search formulation does not include the posting figures for the individual sets.

Use of a recalled formulation can be initiated, but in a rather cumbersome way, by giving the .EXECUTE command (type .EXECUTE). There must be no intervening EXPAND command between the .RECALL and .EXECUTE. Once again, this command collects all of the citation postings associated with the sets in the search formulation, executes all of the commands stored in the search (except for all the non-set producing commands such as EXPAND, PRINT, TYPE, DISPLAY, and erroneous commands which are all ignored), and creates a new set corresponding to the last set in the saved sequence.

4. Release the Search Formulation

When it is no longer worthwhile to keep the search stored in the computer system, it should be erased by giving the .RELEASE command (type .RELEASE). This command causes the search last recalled at that terminal session to be released; for this reason, the search has to be called up for review before it can be released. There can be no intervening EXPAND steps between .RECALL and .RELEASE. An illustration of this release process is given in the example below:


? (.RECALL AUD) —recall Serial number for search save
S PRESCHOOL AND PATIENCY
?BENURSERY SCHOOLS <— BREAK as soon as printing starts
? (.RELEASE) —key in .RELEASE
.RELEASEAUD
? LOGOFF

5. Additional Comments

The SEARCH SAVE feature is very helpful when running the same search against several different data bases. In that situation, you should save the search at the time it is created for use on the first file, and then recall and execute it after the file is changed. This should be considered again when working with multiple files in Exercise #8.

Some suggested practices with the SEARCH SAVE feature are:

1. Plan the search formulation carefully before going on-line.

2. Keep the search formulations restricted to basic modular concepts (e.g., age groups); this usually amounts to less than 20 lines.

3. Give a BEGIN command before starting the search save formulation, in order to start the sets numbering from one.

4. Label your individual search formulations to help their later identification and use; you can do this by SELECTing a multi-word label of your own choice.

5. If you plan to use the saved sequence on different files, use the adjacency feature (W) instead of spaces between words for multiple-word entries (bound terms); this is because of the variant word-handling practices seen as you shift between different files.

6. Do not use E- or R- numbers in the saved search because they are only temporarily affiliated with the terms in the index. As more terms are added to the file, a term that has E7 on an EXPAND today, may no longer be E7 after the next file update. The terms corresponding to an E number will almost certainly be different when changing files. It is better to use the terms themselves.

7. Do not include EXPAND or TYPE or other non-set producing commands in a search which is to be saved.

ON-LINE EXERCISE

Before coming to the laboratory session, the student should prepare a search formulation that will represent any one of the following general notions. Use should be made of the thesauri, word frequency lists, and other analyst support tools available for the ERIC data base. Keep the formulations to a total of 10 terms:

pre-school education	non-print media
elementary education (K-8)	library technical processing
colleges and universities	library networks
information industry	library automation
handicapped or disadvantaged library users	ethnic minorities
pre-adult age level	special libraries
counseling	

```
?(BEGIN 1)——always start constructing a search set with a new BEGIN

          11nov76 14:24:43 User6065
   $0.08   0.003 Hours in File1
   $0.03  Tymnet                                          BEGIN
   $0.11  Estimated Total Cost
          File01:ERIC FULL TEXT N0V76
          Set Items Description (1-OR;*-AND; -NOT)

? S PRESCHOOL AND PRIMARY

            1      0 PRESCHOOL AND PRIMARY
? S NURSERY SCHOOLS+ S PRESCHOOL/DE*ID+S KINDERGARTEN

            2    283 NURSERY SCHOOLS
            3   5379 PRESCHOOL/DE*ID
            4   3578 KINDERGARTEN                          FORMULATE
? S EARLY CHILDHOOD EDUCATION+ S PRIMARY GRADES

            5   2790 EARLY CHILDHOOD EDUCATION (ED
            6   1296 PRIMARY GRADES
? S PRIMARY EDUCATION+ S GRADE 1+ S GRADE 2+ S GRADE 3

            7   1195 PRIMARY EDUCATION (EDUCATION
            8   1376 GRADE 1
            9    750 GRADE 2
           10    755 GRADE 3
? C2-10/OR                                  } final COMBINE
           11  13592 2-10/OR
?(END/SAVE)——command to save the search                    SAVE
Serial#(AUU)——system responds with serial #

? .EXECUTE AUU  ——executing the previously saved search

              0 PRESCHOOL AND PRIMARY
            283 NURSERY SCHOOLS
           5379 PRESCHOOL/DE*ID
           3578 KINDERGARTEN
           2790 EARLY CHILDHOOD EDUCATION (
           1296 PRIMARY GRADES
           1195 PRIMARY EDUCATION (EDUCATIO
           1376 GRADE 1
            750 GRADE 2
            755 GRADE 3
          13592 2-10/OR
      (3) 13592 SERIAL# AUU
? END                                  set # to use when combining with
                                       other facets of a
          11nov76 14:35:03 User6065    search.
   $0.83   0.033 Hours in File1
   $0.33  Tymnet
   $1.16  Estimated total cost
?
```

Alternate methods of recalling a saved search.

```
? .RECALL AUU
```

command to recall a previously saved search

```
S  PRESCHOOL AND PRIMARY
S  NURSERY SCHOOLS
S  PRESCHOOL/DE*ID
S  KINDERGARTEN
S  EARLY CHILDHOOD EDUCATION
S  PRIMARY GRADES
S  PRIMARY EDUCATION
S  GRADE 1
S  GRADE 2
S  GRADE 3
C2-10/OR
? .EXECUTE
```

RECALL

command to execute the search

```
          0 PRESCHOOL AND PRIMARY
        283 NURSERY SCHOOLS
       5379 PRESCHOOL/DE*ID
       3578 KINDERGARTEN
       2790 EARLY CHILDHOOD EDUCATION  (
       1296 PRIMARY GRADES
       1195 PRIMARY EDUCATION  (EDUCATIO
       1376 GRADE 1
        750 GRADE 2
        755 GRADE 3
      13592 2-10/OR
  1 13592 SERIAL# AUU
? END
```

EXECUTE

RECALL + BREAK

```
? .RECALL AUU
```

command to recall a saved search

```
S  PRESCHOOL AND PRIMARY
S  NURSERY SCHOOLS
S  PRESCHOOL/DE*ID
TENX
? .EXECUTE
```

← operator BREAKs printout after verifying that it is the correct search saved

```
          0 PRESCHOOL AND PRIMARY
        283 NURSERY SCHOOLS
       5379 PRESCHOOL/DE*ID
       3578 KINDERGARTEN
       2790 EARLY CHILDHOOD EDUCATION  (
       1296 PRIMARY GRADES
       1195 PRIMARY EDUCATION  (EDUCATIO
       1376 GRADE 1
        750 GRADE 2
        755 GRADE 3
      13592 2-10/OR
  2 13592 SERIAL# AUU
```

1. Start up the terminal in the ERIC file in the fastest possible way. Enter the search formulation that you have prepared for one of the above concepts. Make sure that your first set includes a good label for this search, and your last set includes a COMBINE operation that summarizes the action called for in all the prior sets. Give an END/SAVE command. Type one citation from this search in format 2. LOGOFF.

2. Use the terminal in an SDI mode by using your stored search with the most recent update to the ERIC file. Do this by reconnecting to the ERIC file, and giving a SELECT UD=9999 command (this creates a set that consists of all of the citations in the latest ERIC tape). END. Execute your saved search with a .EXECUTEn command. END. Combine the results of the two sets. Type one citation from the final set in format 2. LOGOFF.

3. Reconnect to the ERIC file in the fastest possible way. SELECT the term EVALUATION as a title or Descriptor term. Call up your saved search. END. Execute it with an .EXECUTE command. END. AND it with the EVALUATION set. Type one citation from this set in format 2. LOGOFF.

4. Reconnect to the ERIC file in the fastest possible way. Give a .RELEASE command. Call up your stored search, followed by another .RELEASE command. Try to call up your search again. LOGOFF.

OFF-LINE QUESTIONS EXERCISE #6 STUDENT NAME _____

1. Terminal time required

Problem	On-Line Time (hrs.)
1 (construct search formulation)	
2 (SDI search)	
a) SELECT update	
b) .EXECUTEn	
c) COMBINE and TYPE	
3 (call up and EXECUTE search)	
a) SELECT and recall	
b) .EXECUTE	
c) COMBINE and TYPE	
4 (release search)	_____
TOTAL TIME:	

2. What is the difference in terminal time between

a) Problem #1 (construct the search formulation) and Problem #2b (execute this formulation)?

b) Problem #1 (construct the search formulation) and Problem #3b (execute this formulation)?

c) What implications do these results have for cost of searching?

3. Annotate your citation from problem #1 to show why it was retrieved.

4. Annotate your citation from problem #2 to show why it was retrieved. What was the publication date of this citation?

5. Now compute the annual cost of an SDI search on your topic in problem #2 if you were to store this search sequence and run it each month for a year. There are three different costs involved: a) data base connect time, including communications costs (use the present ERIC commercial rate, plus $10/hr. communications), b) storage costs (10¢ per line per month), c) printout costs (10¢ per citation). With your timing and yield information (but average no more than 40 citations per month), what would it cost you annually to obtain monthly SDI service in this manner?

6. Annotate your citation from problem #3 to show why it was retrieved.

7. In problem #4, why didn't the first RELEASE command work? What is your verification that your stored search was released?

SUMMARY

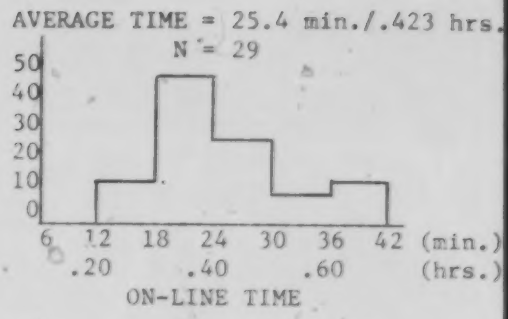
You have now learned how to store a search formulation away for later use. The way in which this feature is usually of most help is in searching multiple files with the same search formulation, particularly when the formulation consists of more than 4 or 5 statements. The extra effort necessary to do the search save generally makes it uneconomical to use for simple searches (e.g. author search or single term search formulations).

Because of the variations in indexing languages and procedures used by different data bases, statements in the formulated searches must be compatible with all the files to be searched. Because of the changing nature of the indexes, EXPAND statements should not be included in a search save.

When multiple files are to be searched, it is usually cheaper to formulate and execute the search on the least expensive file first, and then use the saved search on the more expensive files.

DIALOG LAB EXERCISE #7

(LIMIT)



OBJECTIVE: To learn to use the LIMIT feature

COMMANDS AND FEATURES USED FOR THE FIRST TIME: LIMIT

FILES USED: ERIC, CAIN

BACKGROUND

All current search systems provide a means to limit the search output by such parameters as publication date or accession numbers. Sometimes these restrictions can be incorporated as part of the regular search logic, and sometimes one or more special function commands are used to achieve the same objective.

The limit commands are often held for optional use as one of the last steps in the search formulation, to provide a final trimming if the output set from subject searching is otherwise too large.

DIALOG INSTRUCTION

The LIMIT command (type LIMIT or L or)) is much more complex than the other DIALOG commands because its function and results are different for each data base. You really have to learn this command in the context of the data base you are working with. Volume 2 of the DIALOG manual provides this information for each data base. The description provided in this exercise all relates to the ERIC data base. Further details about the LIMIT operation in the ERIC and other files are given in Appendices E and F. More specific data on LIMITS for a given data base can be obtained on-line with the ?LIMITn instruction.

The LIMIT command is always applied to a previously established set. It tries to live up to its label, and truly limit the size of the set of citations that have already been retrieved. It takes an existing set and attempts to reduce it by applying special criteria, thus creating a new set. It is specified by typing LIMIT followed by the set number/ criterion.

For ERIC, the LIMIT command can be used in the ways described in the following sections.

1. Limit Sets to Specified ED- or EJ- Accession Number Ranges

All of the material processed into the ERIC system is assigned a serial accession number as it is processed into that system. Because the system

has been operating for about 10 years, this accession number range corresponds roughly with the ages of the publications. The low numbers were assigned to publications in the 1960's, and the highest numbers are being assigned to current acquisitions. Thus a search or limit by accession number is roughly comparable to a limit by publication date. We resort to this approximation because there is no mechanism in the DIALOG system to do a literal search on publication date with the ERIC data base.

The current equivalence table for ERIC accession dates and numbers can be obtained by using the EXPLAIN command as shown below. The ?YEARS command only works for the ERIC file.

```
? ?YEARS1
YEARLY ACCESSION # RANGES FOR FILE 1
 YR        ED#'S                EJ#'S
PRE-66 002747-003960/ED
1966 010000-010093/ED
1967 010094-012348/ED
1968 012349-021151/ED
1969 021152-031604/ED 000001-011707/EJ
1970 031605-042060/ED 011708-027599/EJ
1971 042061-054390/ED 027600-045271/EJ
1972 054391-066620/ED 045272-062751/EJ
1973 066621-080787/ED 062752-082164/EJ
1974 080788-095253/ED 082165-101872/EJ
1975 095254-110594/ED 101873-121926/EJ
?
```

Similar accession number data for the ERIC and other files is given in Appendices E and F. Accession number ranges may be found for the most recent years in some files by using the ?LIMITn command.

As noted above, there is an overlap in the ERIC numbering sequence for the ED- and EJ- citations. With this overlap, the LIMIT command can be used in either of two ways:

a) Use one accession number and have it apply to both types of citations, resulting in some mismatch of accession dates. The following example is using an EJ accession number that corresponds to 1970+ EJ accessions, but will also retrieve ED accessions from mid-1967+.

```
? SCATALOG
          10    981 CATALOG
? LIMIT10/011708-999999
          11    960 10/011708-999999
?
```

b) Apply the corresponding accession numbers separately to the ED and EJ citations. That is, annotate the number range in the LIMIT command

to show that it applies to the ED- or EJ- citations. Then the separate LIMIT operations for a given accession date could be ORed together. The following example is limiting to 1970+ accessions.

```
? LIMIT10/011708-99999/EJ
          13    103 10/011708-99999/EJ
? LIMIT10/031605-999999/ED
          14    677 10/031605-999999/ED
? C 13 OR 14
          15    780  13 OR 14
```

Note that to bring the date range up to the present the upper bound number can be represented by all nines instead of being an exact current number. This is faster and easier to remember.

2. Limit Sets to Accession Date

With the ERIC file it is possible to directly SELECT citations with a given year of accession into the ERIC system. This is directly equivalent to using the LIMIT command with the ED or EJ number ranges. This approach has the advantage of being more direct for the operator, but generally takes more on-line time, and fills up the working storage with large sets if several years are involved. An example of this approach to SELECTing those publications received by ERIC since 1970 is shown below.

```
? BEGIN1;EYR-60
          21aug76  9:47:39 User7103
  $2.91    0.194 Hours in File1
File01:ERIC FULL TEXT AUG76
          Set Items Description
          --- ----- -----------

Ref   Index-term                    Type Items RT
E1    UD-7607-----------------------    3313
E2    UD-7608-----------------------    3282
E3    UD-9999-----------------------    3282
E4    YR- 9-------------------------       1
E5    YR-56-65----------------------    2954
E6   -YR-60-------------------------       .
E7    YR-66-------------------------      94
E8    YR-67-------------------------    5290
E9    YR-68-------------------------    8813
E10   YR-69-------------------------   22159
E11   YR-70-------------------------   26348
E12   YR-71-------------------------   30002
E13   YR-72-------------------------   29709
E14   YR-73-------------------------   33579
E15   YR-74-------------------------   34173
E16   YR-75-------------------------   32120
E17   YR-76-------------------------   24858
? SE11-E17
          1210787 E11-E17
                  E63 YR-60
? END
          21aug76  9:49:10 User7103
  $0.57    0.038 Hours in File1
```

3. Limit Sets by Type of Publication

Some files have data fields that include an indication of the type of publication that is cited (e.g. patent, book). It is possible to use this information in some files to restrict the search output to citations of a certain form of publication. For some files (e.g. ERIC, CAC) this is done with a LIMIT command, and for other files (e.g. SSCI, CAIN) this is done by using the SELECT command in conjunction with a table of document types or Descriptors. The approach and commands used with each of several files is summarized in Appendices E and F, and the tables of document type codes or descriptors for several files are summarized in Appendix D.

In the ERIC system, all journal articles are assigned an EJ number, and all other types of publications (reports, dissertations, etc.) are assigned an ED number. This inherent distinction between the types of publications can be realized with the LIMIT command in the ERIC data base simply by giving the prefix letters after the set number as shown in the example below.

COMMAND	INTERPRETATION
LIMIT 7/ED	limit the citations of set 7 to only those citations with ED numbers
LIMIT 2/EJ	limit the citations of set 2 to only those citations with EJ numbers

4. Limit Sets to Available Publications

The ERIC system has as one of its components a major document reproduction facility, the ERIC Document Reproduction Service (EDRS), which provides on-demand copies of most of the reports covered in Research in Education (RIE). An indication of the extent of this service is the fact that it presently distributes over 5 million microfiche per year. It is a major component of the ERIC system, and the availability of its service is noted in the data element for EDRS price for each publication covered in RIE. That is, each RIE citation has a notation regarding the availability of reproductions from EDRS. Most publications are available from EDRS, however about 5% of the items covered are not available because of such reasons as copyright coverage or a poor original for reproduction.

The LIMIT command can be used to restrict a set to only those publications for which copies can be obtained from EDRS. This is done simply by using either of the two designations illustrated below.

COMMAND	INTERPRETATION
LIMIT 4/AVAIL	limit the citations of set 4 to only those publications available from EDRS
LIMIT2/UNAVAIL	limit the citations of set 2 to only those publications that are unavailable from EDRS

5. Limit Sets to Language

Some files have data fields that include an indication of the language of publication. It is possible to use this information to restrict the

search output to just those citations that are in the language of interest. For some files (e.g. CAC, SSCI, CAIN) this is done with a LIMIT command that easily restricts the output to English language citations. In other files (e.g. APA, INSPEC) languages are specified with a SELECT command using language codes or names (e.g. LA = FREN, LA = French). Some files permit language to be specified by either a LIMIT or SELECT command. The approaches and commands used with several of the files are given in Appendices E and F, and the language codes for several files are summarized in Appendix C.

6. Limit Sets to Major Descriptors or Identifiers

a) By Use of LIMIT Command

Many Descriptors and Identifiers are assigned to each publication entered into the ERIC system. (There is an average of 10.46 Descriptors per RIE accession and 6.88 Descriptors per CIJE accession. There is an average of 1.75 Identifiers per RIE accession and 1.37 Identifiers per CIJE accession.) In order to keep the printing costs and publication size down to a manageable figure, only a few Descriptors or Identifiers for any citation are ever used in the printed indexes. In order to facilitate the identification of which of the several assigned terms are to be used for the printed index, the indexer annotates the Descriptors or Identifiers that represent the major topic for that particular citation. In the DIALOG system and ERIC data base, the annotation is done with an asterisk that precedes the index term as shown by the example below.

EJ134641 FL508623
Creativity in Foreign Language Teaching
Ostojic, Branko International Review of Applied Linguistics in Language Teaching; 13: 4; 309-319 Nov 75
Descriptors: *Language Instruction/ *Second Language Learning/ *Teaching Methods/ *Teacher Role/ *Creativity/ Student Attitudes/ Communication (Thought Transfer)/ Self Expression/ Student Teacher Relationship

indicates MAJOR descriptor

Of course, any Descriptor could be used as a major term for one citation, and as a minor term for another citation. The objective of this LIMIT command is to restrict the set to those citations in which the search term (Descriptor or Identifier) was used as a major term, as evidenced by the fact that it was used as an access point in the printed index.

An illustration of the use of this LIMIT command to restrict the set to major terms is given in the example below.

? S CREATIVITY number of citations with word CREATIVITY in the title, abstract, descriptor, identifier, or report source
? LIMIT S1/MAJ
? TYPE 3 number of citations having CREATIVITY as a major descriptor or identifier

Remember that because of the way in which the Major/Minor designations are first made in the data bases, this limitation can only be made to those files (e.g. ERIC, NTIS, COMPENDEX) that make such distinctions at the time of data input.

A LIMIT to minor terms is also possible (e.g. LIMIT 5/MIN) but this has limited use (e.g. to find citations not otherwise found by a manual search in the printed indexes).

The LIMITn/MAJ is usually used on the most important facet of the search and then combined with other facets. If a set being limited is already the result of a logical operation, it will require that all facets of the search satisfy the major requirement (and this may be far more limiting than is desired).

In LIMITing to /MAJ, it is only possible to LIMIT those search terms that have a major or minor attribute. To the DIALOG system, any accession number that has been retrieved by a YR= command does not carry an indication of major or minor. Therefore, if you AND this set with other search term(s), the resulting combined set does not carry the indication of major or minor and it will result in "0" citations.

b) By Use of Suffix Codes

Major terms can also be retrieved directly by using a SELECT command with /DE*, /ID*, /DF*, or /IF* suffixes as shown in the example below.

```
? SLANGUAGE ARTS/DE
          1    1996 LANGUAGE ARTS/DE
? SLANGUAGE ARTS/DE*
          2     949 LANGUAGE ARTS/DE*
```

This has the same effect as a LIMIT command and may actually be easier and more straightforward to use.

The /DE*, /ID*, /DF*, or /IF* must be used with the SELECT, not with the LIMIT command. The use of the suffixes in a form such as LIMIT 7/DE* will not work.

7. Combinations of LIMITS

It is possible to apply sequential limiting operations to a given set, applying each successive LIMIT to the result of the preceding LIMIT. This generally reduces the set size rather quickly.

It is also possible to consolidate several LIMIT restrictions into a single command as shown by the examples below:

```
? LIMIT2/031605-054390/ED/AVAIL
          4     198 2/031605-054390/ED/AVAIL
? LIMIT2/031605-054390/ED/MAJ/AVAIL
          5      62 2/031605-054390/ED/MAJ/AVAIL
```

The succession of stacked limits must be in the order indicated in the above example. Some elements may be omitted, but the order must remain the same.

8. The LIMITALL command

When special limits are decided on in advance of the search a LIMITALL (LIMITALL or LALL or)ALL) command may be used. Unlike the LIMIT command, the LIMITALL command is used at the beginning of a search. It restricts all subsequent commands according to the criterion given (e.g. by accession number range, by sub-file, etc.). Note that the LIMITALL command does not operate on the MAJOR or MINOR attributes.

In ERIC, the LIMITALL command can be used to restrict subsequent commands by accession number range or by the part of the ERIC file being accessed (e.g. /ED or /EJ) as shown below.

```
? LIMITALL/080788-999999
          LIMIT ALL ALL/080788-999999
? SREADING
           6   7428 READINGS
?


? LIMITALL/ED
          LIMIT ALL ALL/ED
? SLIBRARY(F)CIRCULATION
            7    297 LIBRARY(F)CIRCULATION
?
```

Multiple criteria can be used, e.g. LIMITALL/NNNNNN-MMMMMM/ED.

```
? LIMITALL/080788-999999/ED
          LIMIT ALL ALL/080788-999999/ED
? SEDUCATION
           8  31174 EDUCATION
?
```

The LIMITALL command is cancelled by using the LIMITALL/ALL command. Use of a new LIMITALL command will override the previous LIMITALL command. A LIMITALL command will also be cancelled by a BEGINn command. Note: A file change using the .FILEn command (described in Exercise #8) does not cancel an existing LIMITALL command. In this situation it is important to cancel the LIMITALL command when it is no longer needed.

```
? LIMIT ALL/ALL
          LIMIT ALL ALL/ALL
?
```

ON-LINE EXERCISE

1. Start up the terminal with !B command. Command an explanation of the LIMIT command for File 1. Then command an explanation of the YEARS for file 1. Build a set that combines the two concepts (TEACHER or TEACHERS) and (UNION or UNIONS or COLLECTIVE BARGAINING or STRIKES), restricting your search to just those terms. You can use truncation searching if you wish, but do not EXPAND any terms. Consider the resulting set to be the gross output. Then apply each of the following LIMITS on that same gross output:

LIMIT output to citations processed by ERIC in 1970 or later
LIMIT output primarily to reports
LIMIT output to those retrieved with Major Descriptors or Identifiers
LIMIT output to publications available from ERIC
END.

2. DISPLAY SETS. Starting with the first LIMITed output prepared in Problem 1 above (i.e. the set corresponding to 1970+ citations), successively limit this output to:

reports
and then to:
those with Major Descriptors or Identifiers
and then to:
those available from ERIC.
END.

3. DISPLAY SETS. Using your set that corresponds to TEACHER or TEACHERS, TYPE one citation from this set in format 5. Then LIMIT the set to those citations that used those two terms (TEACHER or TEACHERS) as all or part of a Major Descriptor or Identifier. TYPE one citation from this LIMITed set in format 2. END.

4. Using your set that corresponds to UNION or UNIONS or COLLECTIVE BARGAINING or STRIKES, TYPE one citation from this set in format 5. Then LIMIT this set to those publications that are available from ERIC. TYPE one citation from this set in format 2. Then use this LIMITed set with a SELECT YR= command to construct a set that corresponds to publications processed by ERIC in 1975. TYPE one citation from this set in format 2. END.

5. Using the CAIN data base, search for the citations that are indexed by the term FUNGICIDES. Restrict these citations to French and German language bibliographies. Print on-line the first two citations of this final set in format 5. LOGOFF.

OFF-LINE HOMEWORK EXERCISE #7 STUDENT NAME_____

1. Terminal time required

Problem	On-line Time (hrs.)
1 (separate limits)	
2 (successive limits)	
3 (MAJ limit)	
4 (ERIC AVAIL limit)	
5 CAIN foreign reviews	
TOTAL	

2. Total citation counts and LIMIT reductions:

PROBLEM #1 (Separate Limits)

Set	No. of Citations	Percent of Gross Output
gross output		100
gross (LIMIT to post-1970 ERIC)		
gross (LIMIT to reports)		
gross (LIMIT major)		
gross (LIMIT to ERIC AVAIL)		

PROBLEM #2 (Successive Limits)

Set	No. of Citations	Percent of Gross Output
gross output		100
gross (LIMIT to post-1970 ERIC)		
gross (LIMIT to reports)		
gross (LIMIT major)		
gross (LIMIT TO ERIC AVAIL)		

3. Annotate your typed citations of Problem #3 to show proof that the LIMIT MAJOR command worked.

4. Annotate your typed citations of Problem #4 to show proof that your LIMIT ERIC AVAIL and SELECT YR= commands worked.

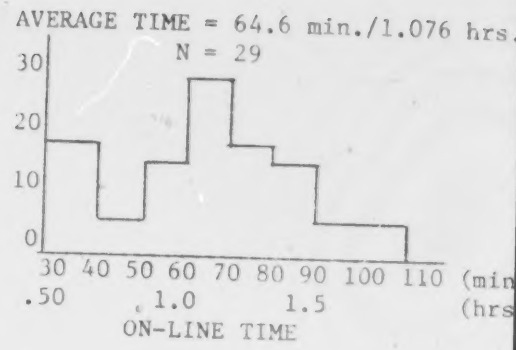
5. Annotate your typed citation of Problem #5 to show that your language and publication type restrictions worked.

SUMMARY

After, or in addition to doing the subject search, the LIMIT command can be used for fine tuning or further trimming of the output on the basis of non-subject parameters (e.g. language, date). This gives another independent degree of freedom for the searcher. If the subject search yield is small, there is little point in taking the extra effort to impose the LIMIT conditions; but if the yield is large, then the LIMIT command is an extremely effective way to trim the subject search output to a more manageable and desired product.

Unfortunately, the LIMIT features vary significantly from file to file. Features available on one file (e.g. language identifications) are not necessarily available on other files. Because the LIMIT features are so data base specific, you really need to concentrate on the details of the data bases of particular interest to you, and make use of the reference tables to help with the other files.

DIALOG LAB EXERCISE #8
(MULTIPLE FILES)



OBJECTIVE: To learn to work with multiple files.

COMMANDS USED FOR THE FIRST TIME: FILEn

FILES USED: ERIC, CAIN, NTIS

BACKGROUND

One of the most important features of the major on-line services is the searchers' access to many different files, and the capacity to easily use the same search formulation for several different files that may be relevant to the search topic.

Working with a system that has multiple files poses some special problems for the searcher; problems that are not encountered or not obvious when working with a single-file system. Search formulations must take into account the availability or unavailability of the various data elements in the various files, as well as their definitions and labels (codes) as used in the search system. Search formulations that work in one file may be inappropriate for use with another file because the data elements or their equivalents are not there (e.g. the BIOSIS taxonomic code has no equivalent in CAIN).

The handling of author names is a particularly frustrating exercise because of the variant practices of the data base suppliers. Some suppliers include the full first name while others abbreviate it. Spacing conventions are different, and until 1975, one data base even truncated the author's last name to 8 characters. An illustration of these widely varying practices is given by the examples in Figure 8-1, with EXPAND commands given in several files for the same author.

Aside from possibly doing a time-consuming EXPAND for each file, the simplest practical way to handle an author search in multiple files is to SELECT the last name and first initial with a truncation mark at the end of it. This might cause a false drop problem with the Smiths, but would probably be quite all right for the more unique names.

Searching with multiple data bases is a very fast way for the searcher to be introduced to the differences, idiosyncracies, and inconsistencies of the various files. The searcher will also find that the search system itself may be inconsistent in the way in which it treats each of the data bases.

DIALOG INSTRUCTION

1. Startup

Remember that when starting up the terminal, the system automatically places the searcher in the pre-determined default file for that terminal. In the event that you want to start up the terminal and immediately start searching on a file other than your default file, you can do this by giving a BEGIN command followed immediately by the file number for the data base of interest (type BEGINn or !n).

```
ENTER YOUR DIALOG PASSWORD
********  RECONNECT File1 13:33:05


? BEGIN 4
          11nov76 13:33:41 User6065
  $0.28    0.011 Hours in File1
          File04:CEC, NOV 76
          Set Items Description (+=OR;*=AND;-=NOT)

? S APHASIA FOR MRJ
            1      0 APHASIA FOR MRJ
?
```

This will place you immediately in file n, and is the fastest way to initialize if the printout identification is not important. As a matter of fact you could even use BEGINn for all starts, and never bother with BEGIN BYPASS. For minimal printout identification, you should SELECT your name and the requestor's name or a search title and name of requestor as a comment in the first set.

2. File Change

If you are already working in a file, and wish to switch to another file, this can be done by simply giving a file change command (type .FILEn) with the number of the file desired. The file change does not reset the search history, but sets created on a previous file are not active after a file change. Therefore you should finish up with one file, including all TYPE, PRINT, or DISPLAY commands, before you switch files.

An example of a file establishment and switch is shown below:

```
? .FILE 9
.FILE 9
          11nov76 13:36:09 User6065
  $1.03    0.041 Hours in File4
File reset: AIM & ARM AUG 76
?
```

A better way to switch files (except for the special case of the CAC and CASIA files) is the use the BEGINn command because this takes the same amount of time as a .FILEn, but starts new set numbers.

Timing information is always given back with a file change. When switching between files, the searcher should remember that some of the DIALOG coding conventions are different for different files (e.g. journal source is represented in some files by JN=, in others by JO=, and in still others by the Coden CO=). Remember also that the files have differing practices on some data elements (e.g. representation of author names). A summary of some of these conventions is given in the appendix.

Another point to remember is that a citation retrieved by a search of one file may also be retrieved when searching another file. This simply represents the overlapping coverage of the data bases. The citations may be indexed differently because of the differing practices of the data base suppliers. Unfortunately, there is no convenient way yet for the system to remove duplicate citations that are retrieved by searching several separate files with the same question. The formulation and use of a national standard article identification number would be helpful here, but that won't happen for several years.

This exercise concludes the basic training with the DIALOG commands. The remaining exercises are planned to increase speed and proficiency, provide a review, and explore more general issues.

ON-LINE EXERCISE

Be sure to obtain the necessary file numbers before you start this exercise. Remember that if you cannot find them in any reference tool, you can always give a ?FILES command and receive a current listing on-line of the available files and their numbers.

The off-line homework for this exercise explores a lot of detailed timing data. For that reason, many more END commands were scattered through this exercise than would normally be used in regular practice. They should be used where called for, in order to provide the timing information needed for the homework problems.

This is a particularly long on-line exercise. However, it can be broken into two or more separate sessions if desired. Some good break points are noted in the exercises below.

1. (Try chaining some of these commands together.) Start up the terminal with a BEGINn command for the CAIN data base. Then SELECT the term LIBRAR? and type the first citation from that set in format 5. Then change to the ERIC data base with a file change command. SELECT the term LIBRAR? and type the first citation from that set in format 2. Then change to the NTIS data base, SELECT the term LIBRAR? and type the first citation from that set in format 2. END.

2. Using only a single SELECT command without truncation for each data base, and without using any EXPAND, search for the existence of any publications by the author Bjorn V. Tell in the ERIC, NTIS, and CAIN files. (This is not a good search practice, but try it anyway.)

Do not type any citations; obtain counts only. Determine ahead of time what the proper format is for each of these data bases (spacing, abbreviation, etc.) (Try stacking your commands to do this problem with as few RETURNs as possible.) END.

3. Now repeat the above exercise, using a search save approach. Start by EXPANDing the author's name in the ERIC file and noting the variant forms. Now give a BEGIN command, and build a search save including any variant forms you would expect in other data bases. Do not EXPAND during your search save sequence. You may use truncation if you wish. Type out the first citation retrieved in the ERIC file in format 2. Then store this author formulation as a search save. Make a file change to the NTIS file, execute the search save, and print the first citation in format 2. Then repeat this search save execution and citation printout with the CAIN file. Recall and release this search save. END. (Note: This is not the recommended technique for searching an author in more than one file; it is included here for the purpose of comparison.)

4. Repeat the above author search exercise by the approach of searching each of the same files separately with EXPAND and SELECT commands. (Chain some of your commands together.) END.

THIS IS A GOOD PLACE TO TAKE A BREAK.

5. Answer the following reference question, "Find all citations for any publication by Dick Orr that mentioned measurement techniques or measures in the title." Restrict yourself to the ERIC, CAIN, and NTIS data bases; and consider whether or not you want to use a search save. (If you do, start with a BEGIN BYPASS and be sure to release it when finished.) Type the retrieved citations on-line in format 2. END.

THIS IS ANOTHER GOOD PLACE TO TAKE A BREAK.

6. Search the ERIC and CAIN files for a UCLA Symposium proceedings edited by John Sherrod. Print the citations with their Descriptors and Identifiers, but without an abstract. END.

7. Search the ERIC and NTIS files for a publication by Herb Landau regarding data base utilization. Print the citations with their Descriptors and Identifiers, but without an abstract. END.

(Be sure you have released any SEARCH SAVE you may have used.)

8. Locate references to reports of the TV program Sesame Street being used in a school situation. Restrict the search to journal articles where that particular TV program is the primary focus of the article. Type the first citation found in format 2. Check to see if NTIS has anything on this subject, again restricting the search to items of primary interest in Sesame Street. Type the first citation in format 2. END.

9. Find publications of the U.S. Department of Agriculture about 4-H Club programs. Restrict the search to items of primary interest about that organization. Type the first citation in format 2. Use the two most appropriate data bases for this search. LOGOFF.

OFF-LINE QUESTIONS EXERCISE #8 STUDENT NAME _____

1. Fill in the data in the tables below:

Problem	Total no. of Citations	On-line Time (hrs.)	Search Cost ($)
#1. (SELECT in 3 files)			
a) SELECT LIBRAR? in CAIN			
b) SELECT LIBRAR? in ERIC			
c) SELECT LIBRAR? in NTIS			
TOTAL			
#2. (Tell search with SELECT only)			
a) ERIC			
b) NTIS			
c) CAIN			
TOTAL			
#3. (Tell search with ERIC search save)			
a) ERIC			
b) NTIS			
c) CAIN			
TOTAL			
#4. (Tell search with separate EXPAND and SELECT)			
a) ERIC			
b) NTIS			
c) CAIN			
TOTAL			
#5. (Orr search)			
a) ERIC			
b) CAIN			
c) NTIS			
TOTAL			
#6. (Sherrod search)			
a) ERIC			
b) CAIN			
TOTAL			
#7. (Landau search)			
a) ERIC			
b) NTIS			
TOTAL			

Problem	Total no. of Citations	On-line Time (hrs.)	Search Cost ($)
#8. (Sesame Street)			
a) ERIC			
b) NTIS			
TOTAL			
#9. (4-H)			
a) ERIC			
b) CAIN			
TOTAL			
TOTAL TIME USED FOR ALL PROBLEMS:	------		-----

2. Annotate the citations typed in all problems to show why they were retrieved.

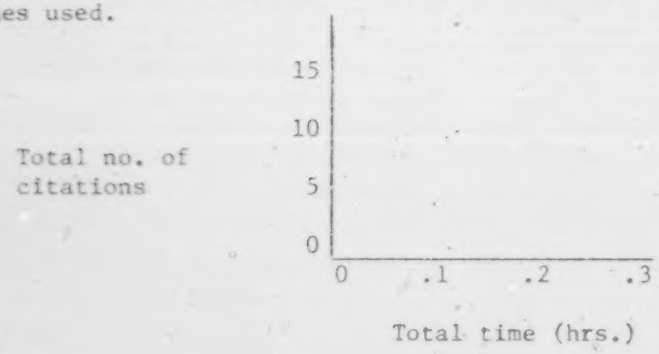
3. Comparison of techniques for author search in the three data bases:

Technique	Total no. of Citations Retrieved	Total Time (hrs.) for 3 Data Bases
Problem 2 (single SELECT in prescribed format)		
Problem 3 (search save)		
Problem 4 (EXPAND and SELECT in each data base)		

a) What is the approximate incremental (i.e. additional) time to search each additional data base (after the first) by using the various techniques?

Technique	Incremental Time (hrs.)
single SELECT	
EXPAND and SELECT	
search save	

b) Plot the 3 data points from your exercise that correspond to the 3 techniques used.



c) Anotate each of the above points with an associated total cost figure for the terminal time used. Assume an average cost of $35/hour.

d) How many additional citations were retrieved by using all forms of the author's name listed, instead of using only a single SELECT?

e) What's your recommendation for technique?

4. For an author search, fill in the data for any one line below to show how many lookups would have to be made for an equivalent manual search over the same time period.

	NO. OF PRINTED AUTHOR INDEXES PUBLISHED			
Data Base	multi-year cumulations	annual cumulations	monthly indexes	total lookups
ERIC (1966 to present)				
CAIN (1970 to present)				
NTIS (1964 to present)				
SSCI (1972 to present)				

a) Estimated number of hours to do the equivalent manual search?

5. For the citation retrieved from the search in Problem #6 (Sherrod), list the index terms supplied by each service to this same citation. Circle and link the ones that are exactly the same (character-by-character) for the two data bases.

ERIC		CAIN
Descriptors	Identifiers	Descriptors

6. For the citation retrieved from the search in Problem #7 (Landau), list the index terms supplied by each service to this same citation. Circle and link the ones that are exactly the same (character-by-character) for the two data bases.

ERIC		NTIS	
Descriptors	Identifiers	Descriptors	Identifiers

7. General comments about indexing of the same citation by multiple services?

8. If you lose track of what file you're working with, how can you easily find out where you are?

SUMMARY

The availability of multiple files for a given search request is one of the most significant features of the major on-line search services. Unless the question is very clearly related to a specific single file, or only a shallow search is desired, the usual on-line search practice today is to pass the same question against several (e.g. 2-4) files that may be relevant. Hence it is important to know how to do this effectively.

You are probably well aware by now of the many differences that exist in the data bases (format, indexing practices, coding conventions, etc.) that cause difficulties when using a single search formulation for several files. It is for this reason that the searcher must really learn and understand the details of the data bases of most immediate interest, as well as the differences and similarities of these data bases. The characteristics and conventions of the files are always changing, consequently continued attention must be paid to newsletters and other announcements from the data base suppliers and on-line services in order to remain up-to-date on these files.

FILE 1 (ERIC)

Ref	Index-term	Type
E1	AU=GAREEN, DIANE B.	
E2	AU=GARELL, DALE C.	
E3	AU=GARET, MICHAEL	
E4	AU=GARET, MICHAEL S.	
E5	AU=GARF, DAVID	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIELD, JOHN C.	
E8	AU=GARFIELD, LEARITA	
E9	AU=GARFIELD, NANCY	
E10	AU=GARFIELD, NANCY J.	
E11	AU=GARFIELD, NAOMI	
E12	AU=GARFIELD, S. JEFFREY	
E13	AU=GARFIELD, SOL L.	
E14	AU=GARFINKEL, ALAN	
E15	AU=GARFINKEL, ALAN, ED.	
E16	AU=GARFINKEL, IRWIN	
E17	AU=GARFINKEL, LAWRENCE	
E18	AU=GARFINKLE, GARY	
E19	AU=GARFINKLE, STUART	
E20	AU=GARFINKLE, STUART H.	

FILE 3 (CA COND.)

Ref	Index-term	Type
E1	AU=GARFAGNINI, R.	
E2	AU=GARFANGINI, R.	
E3	AU=GARFIAS AYALA, J.	
E4	AU=GARFIAS, JAVIER	
E5	AU=GARFIELD, E. L.	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIELD, JANE W.	
E8	AU=GARFIELD, JOSEPH M.	
E9	AU=GARFIELD, L. J.	
E10	AU=GARFIELD, LAWRENCE J.	
E11	AU=GARFIELD, LINDA	
E12	AU=GARFIELD, R. E.	
E13	AU=GARFIELD, ROBERT E.	
E14	AU=GARFIELD, S.	
E15	AU=GARFIELD, SANFORD	
E16	AU=GARFIN, D. E.	
E17	AU=GARFIN, DAVID E.	
E18	AU=GARFINKEL, A.	
E19	AU=GARFINKEL, A. F.	
E20	AU=GARFINKEL, A. S.	

FILE 5 (BIOSIS)

Ref	Index-term	Type
E1	AU=GARFIELD R E	
E2	AU=GARFIELD S	
E3	AU=GARFIELD S A	
E4	AU=GARFIELD S L	
E5	AU=GARFIELD S R	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIN D E	
E8	AU=GARFINKEL A S	
E9	AU=GARFINKEL B D	
E10	AU=GARFINKEL D	
E11	AU=GARFINKEL E	
E12	AU=GARFINKEL F	
E13	AU=GARFINKEL H B	
E14	AU=GARFINKEL H M	
E15	AU=GARFINKEL J	
E16	AU=GARFINKEL L	
E17	AU=GARFINKEL L I	
E18	AU=GARFINKEL P E	
E19	AU=GARFINKLE B	
E20	AU=GARFINKLE B D	

FILE 7 (SSCI)

Ref	Index-term	Type
E1	AU=GARFIELD PL	
E2	AU=GARFIELD R	
E3	AU=GARFIELD S	
E4	AU=GARFIELD SL	
E5	AU=GARFIELD SR	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFINKE,H	
E8	AU=GARFINKE,I	
E9	AU=GARFINKE,J	
E10	AU=GARFINKE,L	
E11	AU=GARFINKE,PE	
E12	AU=GARFINKE,R	
E13	AU=GARFINKE,RS	
E14	AU=GARFINKEL BD	
E15	AU=GARFINKEL D	
E16	AU=GARFINKEL I	
E17	AU=GARFINKEL J	
E18	AU=GARFINKEL L	
E19	AU=GARFINKEL PE	
E20	AU=GARFINKEL RS	

FILE 8 (COMPENDEX)

Ref	Index-term	Type
E1	AU=GARFIELD R	
E2	AU=GARFIELD, B. R. C.	
E3	AU=GARFIELD, DONALD E.	
E4	AU=GARFIELD, E. K.	
E5	AU=GARFIELD, EDWARD	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIELD, LARRY (ED.)	
E8	AU=GARFIELD, LAWRENCE J.	
E9	AU=GARFIELD, SIDNEY R.	
E10	AU=GARFINKEL HM	
E11	AU=GARFINKEL M	
E12	AU=GARFINKEL, CHARLES L.	
E13	AU=GARFINKEL, D.	
E14	AU=GARFINKEL, M.	
E15	AU=GARFINKEL, MARVIN	
E16	AU=GARFINKEL, R. S.	
E17	AU=GARFINKEL, S. B.	
E18	AU=GARFINKLE M	
E19	AU=GARFINKLE, MARVIN	

FILE 10 (CAIN)

Ref	Index-term	Type
E1	AU=GAREWAL, H S	
E2	AU=GAREWAL, N S	
E3	AU=GAREY, L J	
E4	AU=GAREY, W	
E5	AU=GAREZIN, P P	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIELD, J A	
E8	AU=GARFIELD, L	
E9	AU=GARFIELD, R E	
E10	AU=GARFIELD, S	
E11	AU=GARFILIUK, I P	
E12	AU=GARFIN, D E	
E13	AU=GARFINKEL, IRWIN	
E14	AU=GARFITT, C R	
E15	AU=GARFITT, J E	
E16	AU=GARFUROV, B	
E17	AU=GARG, A C	
E18	AU=GARG, A K	
E19	AU=GARG, B C	
E20	AU=GARG, B D	

FILE 11 (PSYCH ABST)

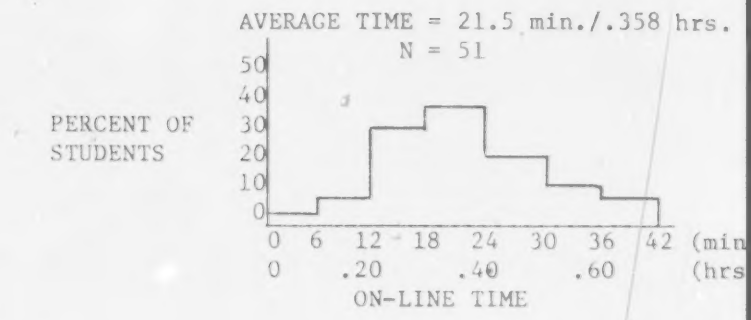
Ref	Index-term	Type
E1	AU=GAREY, CLIFFORD W.	
E2	AU=GAREY, L. J.	
E3	AU=GAREY, RICHARD E.	
E4	AU=GARFIELD, CHARLES A.	
E5	AU=GARFIELD, EMILY F.	
E6	-AU=GARFIELD, EUGENE	
E7	AU=GARFIELD, FRANCES	
E8	AU=GARFIELD, FRANCES B.	
E9	AU=GARFIELD, JOHN C.	
E10	AU=GARFIELD, JOSEPH M.	
E11	AU=GARFIELD, LONNIE	
E12	AU=GARFIELD, MARK D.	
E13	AU=GARFIELD, PATRICIA L.	
E14	AU=GARFIELD, S. JEFFREY	
E15	AU=GARFIELD, S. L.	
E16	AU=GARFIELD, SANDRA	
E17	AU=GARFIELD, SOL L.	
E18	AU=GARFIELD, SOL. L.	
E19	AU=GARFIELD, ZALMON	
E20	AU=GARFIELD, ZALMON H.	

FILE 12 (INSPEC-PHYSICS)

Ref	Index-term	Type
E1	AU=GARFEIN, A.	
E2	-AU=GARFIELD, EUGENE	
E3	AU=GARFIELD, L.J.	
E4	AU=GARFINKEL, A.	
E5	AU=GARFINKEL, A.F.	
E6	AU=GARFINKEL, B.	
E7	AU=GARFINKEL, C.L.	
E8	AU=GARFINKEL, H.M.	
E9	AU=GARFINKEL, M.	
E10	AU=GARFINKEL, S.B.	
E11	AU=GARFINKLE, M.	
E12	AU=GAR RTH, P.J.	
E13	AU=GAI. ORTH, R.E.	
E14	AU=GARFUNKEL, M.P.	
E15	AU=GARFUNKEL, Z.	
E16	AU=GARG, A.C.	
E17	AU=GARG, A.K.	
E18	AU=GARG, A.N.	
E19	AU=GARG, C.L.	
E20	AU=GARG, D.K.	

FIGURE 8-1

DIALOG LAB EXERCISE #9
(REVIEW DRILL)



OBJECTIVE: To review DIALOG commands and to concentrate attention on ways to improve search speeds.

COMMANDS USED FOR THE FIRST TIME: No new commands or features.

FILES USED: ERIC, CAIN, NTIS

BACKGROUND: Studies of many on-line search facilities have shown significant and consistent differences in average search speeds achieved by different searchers or different installations. At the present commercial rates for on-line search services, a very skilled operator can realize significant cost savings over a less-skilled operator (e.g., reduce the average search cost from $50 per search to $25 per search) while still achieving the same (or better) search results. With present prices and limited resources it is very important to be able to make the best available use of terminal services if cost and efficiency is a consideration.

DIALOG INSTRUCTION

The searcher is reminded that for a given terminal equipment configuration, there are several general steps that can be taken to help increase terminal productivity:

1. Do your homework before you go on-line (i.e. plan the general strategy, choose some terms from the various analyst support tools)

2. Use a fast startup procedure with brief labelling

3. Use abbreviated commands and no spaces (e.g. SBOOK)

4. Use truncation when you can get away with it, instead of keyboarding several terms

5. EXPANDs are time-consuming, so use a direct SELECT unless there are good reasons for doing an EXPAND

6. Use the range features when possible instead of individual actions (e.g. SE4-E8; C1-7/OR) because this process includes an implicit OR operation, it saves a COMBINE step, but at the expense of less explicit labeling

7. Where appropriate, string the commands or data together (e.g. SCORN; SMAIZE; SZEA(w)MAYS; C1-3/+) before giving a RETURN

8. When typing out citations, use the format that prints the minimum amount of information while still meeting your objectives

9. Use the BREAK feature to terminate typing that is no longer of interest to you (e.g. when EXPANDing beyond your words of interest)

10. Avoid comprehensive high-recall searching when a high-recall output is not needed

ON-LINE EXERCISE

The following exercises are designed to review the use of the DIALOG features, and provide practice in the use of speed techniques. Study all of these exercises before coming to the terminal in order to devise a strategy that will get the job done in the minimum amount of time.

1. Using an appropriate data base, perform the following search with the given terms, restricting attention to the Descriptor and Identifier fields, and limiting the output to journal articles on budgets or resource allocation college or university libraries. Type the first citation in format 6. END.

2. Search the ERIC file for all forms of the author Bob M. Hayes, limit the output to those publications available from ERIC. and type the first of the citations in format 6.

3. Search an appropriate file to find all citations on cocoa. Limit the output to English language publications dated 1974-75. Type the first of the citations in format 6. END.

4. BEGIN in the NTIS file. Using this data base, build, execute, and store a search on the hazards of microwave ovens or microwave cooking. Type the first citation of the output set in format 6. Then call up and execute this search save with the CAIN file, also typing out the first citation in format 6 from the output set. Release the search save.

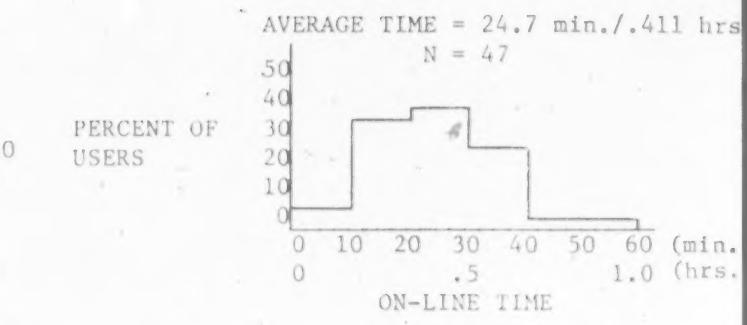
5. Locate reference about the use of B. F. Skinner's theories as used in education. Restrict your search to journal articles of primary concern with Skinner and his theories. Type the first citation in format 2. LOGOFF.

OFF-LINE QUESTIONS EXERCISE #9 STUDENT NAME _____

1. Fill in the data in the table below.

Problem	Total No. of Citations	On-line Time (hrs.)	Search Cost ($)
1. (resource allocation)			
2. (ERIC author search)			
3. (cocoa search)			
4. (microwave search)			
5. (Skinner)			
TOTAL	-------		-------

DIALOG LAB EXERCISE #10
(Individual Searching)



OBJECTIVE: To perform a custom search in response to a real question.

COMMANDS USED FOR THE FIRST TIME: No new commands used here.

FILES USED: Any combination of ERIC, CEC, NTIS, or CAIN

BACKGROUND: The whole task of working with an end user to describe and negotiate a search topic and then to formulate it and run it on the terminal requires a wide range of techniques. Most of the prior exercises worked on narrow segments of this problem; this exercise provides an opportunity to go through the entire process of reference searching right from the beginning. It is intended to provide some practice in working with a previously unstructured problem, and perhaps an unfamiliar data base, and work the entire problem from beginning to end.

DIALOG INSTRUCTION: No special instruction required.

ON-LINE EXERCISE: Locate some person (yourself, a friend, or someone assigned by the instructor if no other users can be located) who has a reference need that can be handled by a retrospective search in one of the DIALOG data bases noted above. This could typically be a background search for a dissertation, individual study project, term paper, research project, or other personal interest. Work with that person to formulate the search strategy and specifications, and then perform the search. Feel free to invite your user to join you at the terminal session if you wish to have the user present during the search.

You may print up to 20 format 2 citations on-line at that conclusion of your search. If all of the citations are of potential interest, you may print up to 20 additional citations on-line in Format 6. This will provide a title and a record number to permit followup manual searching in printed indexes. However, remember that the record numbers printed in Format 6 only have external utility in some data bases (3.g., ED- and EJ- numbers in the ERIC file).

OFF-LINE EXERCISE EXERCISE #10 STUDENT NAME_____

1. Was the search done for somebody else?

2. If so, was that person present during the search?

3. Descriptive title of search?

4. Data base used?

5. Number of final output citations printed?

Ititial format:
Format 6:

TOTAL:

6. Terminal time used (hrs.)

First session:
Subsequent sessions: _____

TOTAL:

7. At the present commercial DIALOG charging rates, what would be the cost of this search?

APPENDIX A

SUFFIX CODES USED WITH BASIC SUBJECT INDEX

FIELD	ERIC (File 1)	CA (File 3)	BIOSIS (File 5)	NTIS (File 6)	SSCI, SCI (File 7,34)	COMPENDEX (File 8)	CAIN (File 10)	PSYCH AB (File 11)	INSPEC (Files 12-14)	ABI (File 15)	MGA (File 29)
Title	/TI	/TI	/TI	/TI	/TI	/TI	/TI	/TI		/TI	/TI
Abstract	/AB						/AB (food and nutrition only)	/AB		/AB	/AB
Descriptor	/DE	/DE (keyword phrases)	/DE (added terms)	/DE		/DE	/DE (subject terms)	/DE (thesaurus-controlled descriptors and identifiers)	/DE (augmented selectively with title and abstract words)		/DE
Descriptor (Full) (useful for single-word terms)	/DF			/DF		/DF		/DF	/DF		/DF
Descriptors (as primary term)	/DE* /DF*			/DE* /DF*		/DE* /DF*					
Identifier	/ID			/ID		/ID		/ID (index phrase)	/ID		
Identifier (Full) (useful for single-word terms)	/IF			/IF					/IF		
Identifier (as primary term)	/ID* /IF*			/ID* /IF*							
Corporate Source (corporate author)	/CS	/CS		/CS	/CS		/CS	/CS	/CS		/CS
Author Affiliation						/CS					

APPENDIX B

PREFIX CODES

DATA FIELD	ERIC (File 1)	CA (File 3)	BIOSIS (File 5)	NTIS (File 6)	SSCI, SCI (Files 7,34)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)	ABI (File 15)	MGA (File 29)
DESCRIPTIVE CATALOGING											
Personal Author (source author)	AU=	AU=	AU=	AU=	AU=	AU=	AU=	AU=	AU=	AU=	AU=
Corporate Source Code *Note: Access to corporate source words is possible through the basic index using suffix /CS.				CC=							
Organizational Source Code	SC=										
Name of Publisher		NP=									
Publisher Source Code							SC=				
Country of Publication											CP=
Journal Name	JO= (abbrev.)		JN= (abbrev.)		JO= (full source journal title)		JN= (abbrev. or full)	JN= (full)	JN= (abbrev.)		
Journal Code		CO= (6 char. CODEN)	CO= (5 char. CODEN)			CO= (6 char. (CODEN)		CO= (6 char. CODEN)	CO= (6 char. CODEN)	CO= (3 char.)	
Abbreviated Title of Publication and Country of Granted Patents		JN=									
Document Type *Note: See also LIMIT command.	DT=				DT=		DT=				DT=
Original Language *Note: See also LIMIT command.		LA=			LA=		LA=	LA=	LA=		LA=
Year of Publication *Note: See also LIMIT command.	YR=						SY=	YR=			
Search Date							SD=				
Search Month							SM=				
Contract/Grant No.	CN=			CN=					CN=		

APPENDIX B (CONT'D)

PREFIX CODES

DATA FIELD	ERIC (File 1)	CA (File 3)	BIOSIS (File 5)	NTIS (File 6)	SSCI, SCI (Files 7,34)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)	ABI (File 15)	MGA (File 29)
Contract/Grant Prefix				CP=							
Report No.	RN=			RN=							
Report No. Prefix				RP=							
Project No.	PN=										
Legislative Authority Code	AC=										

SUBJECT ACCESS

*Note: Subject access is also possible by direct entry in the basic index or through the suffix codes.

Classification for Printed Index Sections	SC= (CA Publication Section/ Subsection)			CF= (COSATI Field or WETA/GRTA Nos.)			CC= (NAL Category Code 1972-present OC= (NAL Category Code 1970-1971)	CL=	SC= (Section Classification Code)		
Biosystematic Code (Taxonomic)			BC=								
Biosystematic Name (Taxonomic)			BN=								
Concept Code (CROSS code)			CC=								
Concept Name (CROSS name)			CN=								
Cited Reference					CR=						
Clearinghouse Source	CH= (Clearinghouse Prefix Code)										

APPENDIX B (CONT'D)

PREFIX CODES

DATA FIELD	ERIC (File 1)	CA (File 3)	BIOSIS (File 5)	NTIS (File 6)	SSCI, SCI (Files 7,34)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)	ABI (File 15)	MGA (File 29)
Card-Alert Code						CA=					
Document Location							LO=				
NAL Call No.							NO=				
Subject Code								SC=			
LINKAGE TO PRINTED INDEX											
Update	UD=	UD=	UD=	UD=	UD=	UD=	UD=	UD=	UD=	UD=	UD=
Journal Announcement	IS= (RIE issue)			JA=		JA=	JA=	JA=			JA=
Accession No. *Note that the citation may be retrieved directly by record number by using the TYPE command and the number	*	*	*	*	*	*	*	*	RN=	*	*
PATENT COVERAGE											
Country of Patent Application or Priority Code		AC=							PO=		
Country of Patent									PI=		
Abbreviated Title of Publication and Country of Granted Patents		JN=									
Patent Assignees		PA=							PA=		
Patent No.		PN=							PN=		

APPENDIX C

LANGUAGE CODES

LANGUAGE	CA (File 3)	SSCI, SCI File 7, 34)	CAIN (File 10)	PSYCH AB (File 11)	INSPEC (Files 12-14)	MGA (File 29)
Afrikaans	AFRIKAANS	AF	AFR	AFRI	AFRICAANS	AF
Albanian	ALBANIAN		ALB	ALBA		AB
			APA			
Arabic	ARABIC		ARA	ARAB		AN
Armenian	ARMENIAN		ARM		*ARMENIAN	AR
Austrian	See German					
Azerbaijani	AZERBAIJANI		AZE			AZ
Belorussian	BELORUSSIAN		BEL			BE
Bengali	BENGALI		*BEN			BN
Bohemian	See Czech					
Bulgarian	BULG	BU	BUL	BULG	BULGARIAN	BU
Burmese			BUR			
Catalan ?			*CAT			
Chilean					CHILEAN	
Chinese	CH	CH	CHI	CHIN	CHINESE	CH
Croatian	CROAT		CRO		CROATIAN	CR
Croatian and Slovenian					CROATIAN AND SLOVENIAN	
Czech	CZECH	CZ	CZE	CZEC	CZECH	CZ
Danish	DAN	DA	DAN	DANH	DANISH	DA
Dutch	See Netherlandish	DU	DUT	DUTH	DUTCH	
Dutch, Flemish					*DUTCH, FLEMISH	
English	ENG				ENGLISH	
English and Afrikaans					ENGLISH AND AFRIKAANS	
English and French					ENGLISH AND FRENCH	
English and German					ENGLISH AND GERMAN	
English and Russian					ENGLISH AND RUSSIAN	
English and Slovene					ENGLISH AND SLOVENE	
English and Spanish					ENGLISH AND SPANISH	
English, French					ENGLISH, FRENCH	
English, French and German					ENGLISH, FRENCH AND GERMAN	
English, French, German					ENGLISH, FRENCH, GERMAN	
English, French, Spanish and Russian					ENGLISH, FRENCH, SPANISH AND RUSSIAN	
English, German					ENGLISH, GERMAN	
English, German and French					ENGLISH, GERMAN AND FRENCH	
English, German and Swedish					ENGLISH, GERMAN AND SWEDISH	
English, German, French and Russian					ENGLISH, GERMAN, FRENCH AND RUSSIAN	
English, Russian, French and German					ENGLISH, RUSSIAN, FRENCH AND GERMAN	

APPENDIX C (CONT'D)

LANGUAGE CODES

LANGUAGE	CA (File 3)	SSCI, SCI File 7, 34)	CAIN (File 10)	PSYCH AB (File 11)	INSPEC (Files 12-14)	MGA (File 29)
Esperanto	ESPERANTO				ESPERANTO	EP
Estonian	ESTONIAN		EST		*ESTONIAN	ES
Ethiopian ?			*ETH			
Faeroese	FAEROESE					FA
Finnish	FINNISH	FI	FIN	FINN	FINNISH	FI
Flemish	See Netherlandish	FL	FLE	FLEM	*FLEMISH	
French	FR	FR	FRE	FREN	FRENCH	FR
French and Dutch					FRENCH AND DUTCH	
French and English					FRENCH AND ENGLISH	
French and Flemish					FRENCH AND FLEMISH	
French and German					FRENCH AND GERMAN	
French, Dutch					FRENCH, DUTCH	
French, English					FRENCH, ENGLISH,	
French, English, Italian					FRENCH, ENGLISH, ITALIAN	
French, German					FRENCH, GERMAN	
French, German and English					FRENCH, GERMAN AND ENGLISH	
French, German, Dutch, Italian					FRENCH, GERMAN, DUTCH, ITALIAN	
Gaelic	GAELIC	GA				GA
Georgian	GEORGIAN		GEO	GEOR		GR
German	GER	GE	GER	GERM	GERMAN	GE
German and English					GERMAN AND ENGLISH	
German and French					GERMAN AND FRENCH	
German and Italian					GERMAN AND ITALIAN	
German and Russian					*GERMAN AND RUSSIAN	
German, English					GERMAN, ENGLISH	
German, English and Russian					GERMAN, ENGLISH AND RUSSIAN	
German, French					*GERMAN, FRENCH	
Greek	GREEK	*GR	GRC GRE	GREK	GREEK	GK
Gujarati	GUJARATI					GU
Hebrew	HEBREW	HE	HEB	HEBR	HEBREW	HE
Hindi	HIND		*HIN			HI
Hungarian	HUNG	HU	HUN	HUNG	HUNGARIAN	HU
Icelandic	ICELANDIC		ICE			IC
Indonesian	INDONESIAN		IND			ID
Interlingua	INTERLINGUA					IG
Iranian			*IRA	IRAN		
Israeli	See Hebrew					
Italian	ITAL	IT	ITA	ITAL	ITALIAN	IT
Italian and English					ITALIAN AND ENGLISH	
Japanese	JAPAN	JA	JAP	JAPN	JAPANESE	JA
Kanarese			*KAN			
Kazakh	KAZAKH		*KAZ			
Kirghiz			KIR			
Korean	KOREAN		KOR		KOREAN	KO

APPENDIX C (CONT'D)

LANGUAGE CODES

LANGUAGE	CA (File 3)	SSCI, SCI File 7, 34)	CAIN (File 10)	PSYCH AB (File 11)	INSPEC (Files 12-14)	MGA (File 29
Latin	LATIN		LAT			KZ
Latvian	LATVIAN	*LA(?)	LAV		*LATVIAN	LA
Lithuanian	LITHUANIAN		LIT	LITH		LI
Macedonian	MACEDONIAN	MAC				LU
Malagasy ?		MAL				
Marguesan?		MAR				
Malay	MALAY	*MAY				MA
Mexican	See Spanish					
Moldavian	MOLDAVIAN	*MOL				MO
Mongolian	MONGOLIAN	*MUL				MG
Nepalese		NEP				
Netherlandish	NETH					NE
Norwegian	NORWEG	NO	NOR ORI	NORG	NORWEGIAN	NO
Panjabi	PANJABI					PA
Persian	PERSIAN					PE
Polish	POL	PL	POL	POLH	POLISH	PO
Portuguese	PORT	PT	POR	PORT	PORTUGUESE	PT
Romanian	ROM	RM	*ROM	ROMN	ROMANIAN	RO
Rumanian			*RUM		RUMANIAN	
Rumanian, English					RUMANIAN, ENGLISH	
Russian	RUSS	RS	RUS	RUSS	RUSSIAN	RS
Serbian	SERBIAN		SER			SE
Serbo-Croatian	SERBO-CROATIAN	SC		SRCR	SERBOCROTIAN	SR
Slovak	SLO	SK	SLO	SLOK	SLOVAK	SL
Slovak and Czech					SLOVAK AND CZECH	
Slovene		*SL		SLOE	SLOVENE	
Slovenian	SLOVENIAN	SN	SLV SNH	SLOV	SLOVENIAN	SN
Spanish	SPAN	SP	SPA	SPAN	SPANISH	SP
Spanish and English					SPANISH AND ENGLISH	
Spanish and French					SPANISH AND FRENCH	
Spanish, French					*SPANISH, FRENCH	
Swedish	SWED	SW	SWE	SWED	SWEDISH	SS
Swiss					SWISS	
Tadjck			*TAJ			
Tamil			*TAM			
			*TAR			
Telugui			*TEL			
Thai	THAI		THA			TH
Turkish	TURKISH		TUR	TURK	TURKISH	TK
Turkmen	*TURKMEN					
Ukrainian	UKRIAN	UK	UKR	UKRN	UKRAINIAN	UK
Urdu	URDU		*URD			UU
Uzbek			*UZB			
Vietnamese	VIETNAMESE					VI
Welsh			*WEL			
Wendish			*WEN			
Yugoslavian				YUGO		

LANGUAGE CODES

LANGUAGE	CA (File 3)	SSCI, SCI File 7, 34)	CAIN (File 10)	PSYCH AB (File 11)	INSPEC (Files 12-14)	MGA (File 29)
TYPOGRAPHICAL ERRORS:						
	SWEDISH		BER	GER	A	
			COR	NORW	A1010A	
			CRE	POHL	AND	
			FRI	S	BULGARIA	
			HER	SCRC	B	
			INC	SOCA	CROTIAN	
			RUN	UKRA	CZECHOSLOVAK	
					CZECHOSLOVAKIAN	
					DDEGAE	
					DFAKX	
					EMGLISH	
					ENGLISH	
					ENGLAND	
					ENLISH	
					FINISH	
					FEENCH	
					FENCH	
					FRANCE	
					FRECNH	
					FREMCH	
					GBGECA	
					GERMAAN	
					HAS	
					ITALNIAN	
					JANANESE	
					JAPAN	
					JAPANAESE	
					JAPENESE	
					NCECAY	
					PUSSIAN	
					REEGAL	
					RETMAM	
					ROUMANIAN	
					RUSIAN	
					RUSSAIN	
					RUSSIAN	
					SPANSIH	
					SPANAISH	
					T	
					UKRANIAN	

NOTES

1. All other files do not have a data field for language.

2. For all these files, language sets are formulated by EXPAND LA= or SELECT LA= .

*Code not given in manual.

APPENDIX D

PUBLICATION TYPE CODES OR DESCRIPTORS

PUBLICATION TYPE	ERIC (File 1) Codes assigned after mid-1974[2]	ERIC (File 1) Descriptors used before mid-1974	CA (File 3) Descriptors used	BIOSIS (File 5) Descriptors used	SSCI, SCI (File 7,34) Codes used[2]	CAIN (File 10) Codes used[2]	APA (File 11) Descriptors used	MGA (File 2[9]) Codes used[2]
Abstracts		ABSTRACTS		ABSTRACT	ARTICLE AB			
Annual Reports; Yearbooks	Y	ANNUAL REPORTS, YEARBOOKS					ANNUAL REPORT	
Audio Visual/Nonprint Media; Audiovisual Aids; Films; Tape Recordings; Phonotape Recordings; Computer Programs; etc.	A	AUDIOVISUAL AIDS, COMPUTER PROGRAMS, FILMS, PHONOTAPE RECORDINGS, TAPE RECORDINGS						
Bibliographies; Annotated Bibliographies; Book Catalogs; Abstracts; Literature Reviews; Literature Searches/Guides; Book Lists; Book Reviews; Library Guides; Indexes (Locators); State-of-the-Art Reviews	L	ANNOTATED BIBLIOGRAPHIES, BIBLIOGRAPHIES, BOOK CATALOGS, BOOK LISTS, BOOK REVIEWS, INDEXES (LOCATORS)		BIBLIOGRAPHY CC=00526	REV OR BIB	BIB	BIBLIOGRAPHY	
Books; Monographs, Textbooks; Programmed Texts; etc. (not otherwise classifiable)	B	BOOKS, PROGRAMED TEXTS, TEXTBOOKS		BOOK		MONOGRAPH	BOOK	B
Brief Articles Designated as Noted by the Journal					BRIEF COMM			
Correction of Previously Published Material, Errata					CORRECTN			
Curriculum Guides; Teacher-Developed Materials; Laboratory Manuals	C	CURRICULUM GUIDES, LABORATORY MANUALS, TEACHER DEVELOPED MATERIALS						
Dictionaries; Vocabularies; Glossaries; Thesauri	V	GLOSSARIES, THESAURI					DICTIONARY	
Directories; Membership Lists; Tables of Organization; Reference Works Dealing With Organizations/Institutions; etc.	D	DIRECTORIES						
Editorials and Editorial-Like Items					EDITORIAL			
Encyclopedias		ENCYCLOPEDIAS						

APPENDIX D (CONT'D)

PUBLICATION TYPE CODES OR DESCRIPTORS

PUBLICATION TYPE	ERIC (File 1) Codes assigned after mid-1974[2]	ERIC (File 1) Descriptors used before mid-1974	CA (File 3) Descriptors used	BIOSIS (File 5) Descriptors used	SSCI, SCI (File 7,34) Codes used[2]	CAIN (File 10) Codes used[2]	APA (File 11) Descriptors used	MGA (File 29) Codes used[2]
Guides; Teaching Guides; Resource Guides; Study Guide Administrative Guides; Leaders Guides; Manuals; Training Manuals	G	ADMINISTRATOR GUIDES, GUIDES, LEADERS GUIDES, LIBRARY GUIDES, LITERATURE GUIDES, MANUALS, RESOURCE GUIDES, STUDY GUIDES, TEACHING GUIDES						
History Textbooks		HISTORY TEXTBOOKS						
Items on Individuals (Obituaries, Awards, Biographies, etc.)					TRIBUTE		OBITUARY	
Legislation, Legislative Hearings, Legislative Reports, Congressional Documents. (Include both Federal and State Levels; include National Commissions).	H							
Letter				LETTER	LETTER			
Journal Articles; Serials; Periodicals; Bulletins; Newsletters; Newspapers; etc.	J*	BULLETINS, CLASS, NEWSLETTERS, NEWSPAPERS, PERIODICALS, SCHOOL NEWSPAPERS, SERIALS			See Appendix F	ARTICLE		J
Maps; Atlases; Gazetteers	M	ATLASES, MAPS						
Numerical and Statistical Tables; Quantitative Data and Analyses	N	STATISTICAL DATA, TABLES (DATA)						
Other	O							O
Patents			See Appendix E					

*Note that the CIJE portion of the ERIC data base is composed entirely of journal articles (see Appendix E).

APPENDIX D (CONT'D)

PUBLICATION TYPE CODES OR DESCRIPTORS

PUBLICATION TYPE	ERIC (File 1) Codes assigned after mid-1974[2]	ERIC (File 1) Descriptors used before mid-1974	CA (File 3) Descriptors used	BIOSIS (File 5) Descriptors used	SSCI, SCI (File 7,34) Codes used[2]	CAIN (File 10) Codes used[2]	APA (File 11) Descriptors used	MGA (File 29) Codes used[2]
Proceedings; Conference Records/Minutes (entire)	P	CONFERENCE REPORTS		SYMPOSIUM	MEETING AB		CONFERENCE PROCEEDINGS, PROFESSIONAL MEETINGS AND SYMPOSIA	
Program/Project Descriptions	K	PROGRAM DESCRIPTIONS						
Publications		PUBLICATIONS					EXPERIMENTAL REPLICATION FOLLOWUP STUDIES, PROFESSIONAL CONTRIBUTION, THEORY VERIFICATION	
Questionnaires; Tests; Measurement Devices; Evaluation Devices	Q	TESTS						
Reports (Research and Technical)	R	TECHNICAL REPORTS					CASE REPORT	R
Research Proposals		RESEARCH PROPOSALS						
Review		BOOK REVIEWS	REVIEW	REVIEW	BOOK REV	REVIEW		
Reviews, Bibliographies and Surveys		LITERATURE REVIEWS, RESEARCH REVIEWS (PUBLICATIONS)			REV OR BIB		PROFESSIONAL CRITICISM, PROFESSIONAL CRITICISM REPLY, SELECTED READINGS	
Series						SERIES		
Theses, Dissertations	T	DOCTORAL THESES, MASTERS THESES						
Translations						TRANSL		

NOTES: 1. The other data bases not shown here generally do not have searchable publication type codes or descriptors.

2. Sets are constructed for all of these publication types by using EXPAND DT= or SELECT DT= .

APPENDIX E

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (Files 1-6)

TYPE OF RESTRICTION	ERIC (File 1)		CA (File 3)	BIOSIS (File 5)		NTIS (File 6)	
	RIE	CIJE		BA	BIORI	AEC	NON-AEC
DATE							
SELECT SETS WITH GIVEN DATE PERIODS							
LIMIT SET n TO AN ACCESSION NUMBER RANGE	LIMITn/NNNNNN-MMMMMM/ED	LIMITn/NNNNNN-MMMMMM/EJ	LIMITn/VVNNNNNN-vvMMM	LIMITn/VVNNNNNN-vvMMMMM		LIMITn/ANNNNBN-aMMMbM	
Accession Date	Number Range	Number Range	Number Range	Number Range	Number Range	Number Range	Number Range
1970	031605-042060	011708-027599				6875L2-A1193H3	
1971	042061-054390	027600-045271				A1193H4-A3224I3	
1972	054391-066620	045272-062751	76000001-77999999	53000001-53999999	72000001-72999999	A3224I4-A5551D4	
1973	066621-080787	062752-082164	78000001-79999999	55000001-55999999 56000001-56999999	73000001-73999999	A5551E1-A6171G4	C0011A1-C1941I2
1974	080788-095253	082165-101872	80000001-81999999	57000001-57999999 58000001-58999999	74000001-74999999	A6171H1-A6715G1	C1941I3-C3824G4
1975	095254-110594	101873-121926	82000001-83999999	59000001-59999999 60000001-60999999	75000001-75999999	A6715I1-A7185H1	C3824I4-C5571B4
1976	110595-	121927-	84000001-	61000001-	76000001-	A7185H2-	C5571C1-
LIMIT ALL TO RESTRICT ALL SUBSEQUENT COMMANDS TO A SPECIFIED ACCESSION NUMBER RANCE	LIMIT ALL/NNNNNN-MMMMMM/ED	LIMIT ALL/NNNNNN-MMMMMM/EJ	LIMIT ALL/VVNNNNNN-vvMMMMMM	LIMIT ALL/VVNNNNNN-vvMMMMMM		LIMIT ALL/ANNNNBN-aMMMMbM	
SELECT SET CORRESPONDING TO MOST RECENT TAPE ISSUE	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN
SELECT SET CORRESPONDING TO PRINTED ISSUE OF INDEX	SELECT IS=					SELECT JA=	
SUGGESTED WAY TO RESTRICT SETS TO A DATE PERIOD	LIMIT	LIMIT	LIMIT	LIMIT	LIMIT	LIMIT	LIMIT

APPENDIX E (CONT'D)

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (Files 1-6)

TYPE OF RESTRICTION	ERIC (File 1)		CA (File 3)	BIOSIS (File 5)		NTIS (File 6)	
	RIE	CIJE		BA	BIORI	AEC	NON-AEC
LANGUAGE							
SELECT SETS WITH A GIVEN LANGUAGE			SELECT LA= (use table of languages)				
LIMIT SET n TO ENGLISH OR NON-ENGLISH			LIMITn/ENG to get all English) LIMITn/FRN to get all Foreign)				
SUGGESTED WAY TO RESTRICT OUTPUT TO ENGLISH			LIMITn,'ENG				
PUBLICATION TYPE							
LIMIT SET n TO THOSE AVAILABLE FROM CENTRAL SOURCE	LIMITn/AVAIL (Limits to those publications available from EDRS)						
LIMIT SET n TO PATENTS			LIMITn/PAT to get only patents LIMITn/NPT to exclude patents				
LIMIT SET n TO ARTICLES		LIMITn/EJ (LIMITn/ED to get only reports)					
SELECT SETS OF PUBLICATION TYPES	SELECT DT= (Use table of types)	SELECT DT= (Use table of types)					

APPENDIX E (CONT'D)

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (Files 1-6)

TYPE OF RESTRICTION	ERIC (File 1)		CA (File 3)	BIOSIS (File 5)		NTIS (File 6)	
	RIE	CIJE		BA	BIORI	AEC	NON-AEC
RESTRICT TO MAJOR SUBJECT TERMS							
SELECT SETS THAT USED MAJOR TERMS	SELECT term/DE* SELECT term/ID* SELECT term/DF* SELECT term/IF*	SELECT term/DE* SELECT term/ID* SELECT term/DF* SELECT term/IF*				SELECT term/DE* SELECT term/ID* SELECT term/DF* SELECT term/IF*	SELECT term/DE* SELECT term/ID* SELECT term/DF* SELECT term/IF*
LIMIT SET TO CITATIONS USING MAJOR TERMS	LIMITn/MAJ to get only those publications with major terms			LIMITn/MAJ to get only those publications with major CROSS Codes		LIMITm/MAJ to get only those publications that use major terms	
LIMIT SET n TO CITATION REPORTING NEW TAXA				LIMITn/NEW	LIMITn/NEW		

APPENDIX F

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (FILES 7-15)

TYPE OF RESTRICTION	SSCI (File 7)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)		ABI (File 15)
					Files 12,13	File 14	
DATE							
SELECT SETS WITH GIVEN DATE PERIODS			SELECT SY=YYYY (e.g. SSY=1974)	SELECT YR=YY (e.g. SYR=72)			
LIMIT SET n TO AN ACCESSION NUMBER RANGE	LIMITn/YNNNNN-yMMMMM	LIMITn/YNNNNN-yMMMMM	LIMITn/NNNNNN-1MMMMM		LIMITTn/SNNNNNN-sMMMMMM		
Accession Date	Number Range	Number Range	Number Range		Number Range	Number Range	
1970		000001-099999	100001-197427				
1971		100001-199999	197428-526818		203428-329824		
1972	200000-299999	200001-299999	526819-667661		329825-462218		
1973	300000-399999	300001-399999	667662-782041		462219-574686	000001-007494	
1974	400000-499999	400001-499999	782042-908411		574867-704915	007495-022635	
1975	500000-599999	500001-599999	908412-1039064		704916-833378	022636-	
1976	600000-699999	600001-699999	1039065-		833379-		
LIMIT ALL TO RESTRICT ALL SUBSEQUENT COMMANDS TO A SPECIFIED ACCESSION NUMBER RANGE	LIMIT ALL/ YNNNNN-yMMMMM	LIMIT ALL/ YNNNNN-yMMMMM	LIMIT ALL/NNNNNN-MMMMMM		LIMIT ALL/ SNNNNN-sMMMMM		LIMIT ALL/ NNNNNN-MMMMMM
SELECT SET CORRESPONDING TO MOST RECENT TAPE ISSUE	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN	SELECT UD=YMNN

APPENDIX F (CONT'D)

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (FILES 7-15)

TYPE OF RESTRICTION	SSCI (File 7)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)		ABI (File 15)
					Files 12,13	File 14	
SELECT SET CORRESPONDING TO PRINTED ISSUE OF INDEX				SELECT JA=VVII (e.g. SJA=4501)			
SUGGESTED WAY TO LIMIT SETS TO A DATE PERIOD	LIMIT	LIMIT	SELECT	SELECT	LIMIT		LIMIT
LANGUAGE							
SELECT SETS WITH A GIVEN LANGUAGE	SELECT LA= (use table of languages)		SELECT LA= (use table of languages)	SELECT LA= (use table of languages) (LA=FRGN may also be used)	SELECT LA= (EXPAND LA= and SELECT appropriate terms)		
LIMIT SET n TO ENGLISH OR NON-ENGLISH	LIMITn/ENG to get all English LIMITn/FOR to get all foreign		LIMITn/MAJ to get all English LIMITn/MIN to get all foreign				
SUGGESTED WAY TO RESTRICT OUTPUT TO ENGLISH	LIMITn/ENG		LIMITn/MAJ	SELECT LA=FRGN and NOT this to the set of interest	SELECT LA=ENGLISH?		
PUBLICATION TYPE							
LIMIT SET n TO THOSE AVAILABLE FROM CENTRAL SOURCE							

APPENDIX F (CONT'D)

LIMIT COMMANDS AND OTHER WAYS TO RESTRICT SEARCH OUTPUT (FILES 7-15)

TYPE OF RESTRICTION	SSCI (File 7)	COMPENDEX (File 8)	CAIN (File 10)	APA (File 11)	INSPEC (Files 12-14)		ABI (File 15)
					Files 12,13	File 14	
LIMIT SET n TO PATENTS							
LIMIT SET n TO ARTICLES	LIMITn/ART to get only articles						
SELECT SETS OF PUBLICATION TYPES	SELECT DT= (use table of types)		SELECT DT= (use table of types)				
RESTRICT TO MAJOR SUBJECT TERMS							
SELECT SETS THAT USED MAJOR TERMS		SELECT term/DE* SELECT term/ID* SELECT term/DF* SELECT term/IF*			SELECT term/DE SELECT term/ID SELECT term/DF SELECT term/IF	SELECT term/DE SELECT term/ID SELECT term/DF SELECT term/IF	
LIMIT SET TO CITATIONS USING MAJOR TERMS		LIMITn/MAJ to get only those publications that use major terms					
LIMIT SET n TO CITATIONS REPORTING NEW TAXA							

INDEX

compiled initially by
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N.B. A word in capital letters denotes a specific command.
When applicable, this is followed by the short version of the command.
A word in parentheses denotes a terminal key.

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FILE NO.	FILE	STARTING DATE	TOTAL NO. OF CITATIONS
1	ERIC (RIE, CIJE)	Jan 1966	242,500
3	CHEMABS	Jan 1972	1,400,000
4	CEC	Jan 1966	21,250
5	BIOSIS PREVIEWS	Jan 1972	1,030,000
6	NTIS	Jan 1964	509,500
7	SOC SCISEARCH	Jan 1972	367,500
8	COMPENDEX (EI)	Jan 1972	448,000
9	AIM/ARM	Sep 1967	25,000
10	NAL/CAIN	Jan 1970	765,000
11	PSYCH ABS	Jan 1967	230,000
12	INSPEC-PHYSICS	Jan 1969	463,900
13	INSPEC-ELEC/COMP	Jan 1973	348,600
14	ISMEC	Jan 1973	42,600
15	ABI/INFORM	Aug 1971	34,200
16	PTS (CMA & EMA)	Feb 1972	99,000
17	PTS WEEKLY	Feb 1972	99,000
18	PTS (F & S)	Jan 1972	537,500
19	PTS CIN	Dec 1973	113,000
20	PTS DOM STAT	Jul 1971	43,700
21	PTS FRN STAT	Jan 1972	96,000
22	PTS EIS	current	110,000
23	CLAIMS/CHEM	Jan 1950	392,000
24	CLAIMS/GEM	Jan 1975	60,700
26	FDN DIRECTORY	current	2,500
27	FDN GRANTS	Jan 1973	27,000
28	OCEANIC ABSTRACTS	Jan 1964	88,400
29	METEOR/GEO ABS	Jan 1972	27,000
30	CASIA	Jan 1973	1,000,000
31	CHEMNAME	—	1,000,000
32	METADEX	Jan 1966	260,000
33	WORLD ALUMINUM	Jan 1968	43,000
34	SCISEARCH	Jan 1974	962,000
35	DISSERTATIONS	1861	530,000
36			
37	SOCIOL ABS	1963 (missing 1972, 1975, 1976)	60,000
38	AHL	1964	40,000
39	HIST ABS	v. 19-20	16,000
40	ENVIROLINE	1971	60,000
41	POLLUT ABS	1970	16,000
42	PNI	Jan 1976	13,000